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DOCUMENT No. 783

DEPARTMENT OF COMMERCE AND LABOR
BUREAU OF STATISTICS

No. 286

MONTHLY CONSULAR REPORTS

JULY, 1904

WASHINGTON
GOVERNMENT PRINTING OFFICE
1904

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AMERICANIZATION OF BRITISH MANUFACTURES.

(*From United States Consul Halstead, Birmingham, England.*)

My interest in tube manufacture was aroused originally by the fact that weldless or seamless cold-drawn tubes, made with exceeding care to meet certain high-grade requirements, were, and still are, shipped to the United States from my consular district. This interest increased when I learned of the engagement and importation by one great British tube company with works near Birmingham of four American workmen, to go on night and day shifts of two each, to take charge of a lap (tube) welding plant built on the "American plan." Besides, when I was in the United States last June I read in the newspapers that this American competition with America had been followed—the newspapers announced that the men were starting for England—by the engagement of four American butt welders for work with another British tube company in a town near Birmingham, also in my consular district, and, strangely, this missionary trip of American workmen seemed to be regarded as a matter for congratulation upon our part.

There are many ways of making tubes for steam, gas, water, etc., which may practically be divided into two classes, viz, tubes from blooms and tubes from strip. Tubes of the first class are made direct from iron or steel blooms by first drilling the blooms or by using hydraulic power to pierce them, the metal (heated) of the pierced or drilled bloom being then forced or rolled forward over a bar mandril into tube; or a bloom is cold drawn—step by step, with corresponding intermediate annealings—through a bell mold and over a ball mandril. These cold-drawn weldless or seamless tubes are of the kind I refer to above as being shipped to the United States. There is also a spinning method—in fact, several of them—mandril or bloom or mandril and bloom spinning, the displaced metal being spun over a bar mandril into tube while the bloom is being pierced. It is asserted as an argument against the spinning method that it tears the fibers of the metals, and I am told that tubes made in this way are not accepted by the British Admiralty for boiler tubes.

Seamless or weldless tubes are unquestionably the ideal tubes, and would have come into universal use but for the cost.

Tubes of the second class are made from strip. Metal is rolled into strips of the thickness or gauge and the length, generally 20 feet, of the tube desired, and of a width—the scarfing or the beveling of the edges being calculated upon in lap welding—which, when the strip is rolled up and the edges are welded, will give the tube the diameter required. The weldings are of two kinds: For butt welding the strip, when at welding heat, is rounded, and the edges are brought together butt to butt and welded into a tube. In lap welding a strip having its edges scarfed is heated to a welding heat and rounded and the scarfed edges are brought together to lap, and thus welded. Lap and butt welding are fundamentally awkward processes, and were, perhaps, the original methods of welding tubes, and while lap welding produces a higher grade of tube than butt welding (and there has been very great perfection obtained in the former), tubes welded from strip are really substitutes for better articles.

There has, however, been constant progress in the manufacture of lap and butt welded tubes, increase of speed in making them, and very great advancement toward perfection in results, and that these improvements have been largely American is made evident by the fact that not only are new butt and lap welding plants in Great Britain built in imitation of or on American lines, but, as I stated in my introductory paragraph, in one great British tube factory in this district there are four American workmen (two shifts) in charge of the lap-welding plant, and in another tube factory four Americans (two shifts) in charge of the butt-welding plant.

These men were brought here from Pittsburg and adjoining tube-making neighborhoods, the lap welders under five and three year contracts, the butt welders under three and one year contracts, at wages many times greater than the ordinary rate of wages in this district, and, as an inducement to the men to come here, at an advance—not a big one—over American lap and butt welding wages.

Of course the inherent spirit of adventure and the idea so generally held in America, and as generally erroneous, that living is much cheaper in England than in America, influenced these men to come here. There were some disappointments in store for them, but they are fairly happy and content now, though without doubt they are the only workmen in this neighborhood who pay a good big income tax, and of course an income tax was not in their calculation as an offset to their earnings here. They have told me that they can not live as cheaply here as they could at home; certainly, food is dearer, and clothing even, all articles of wearing apparel for a family considered, they think not as cheap as at home. I really should print some letters I have had from them on the subject. Near one of the works the men were not able to find at any price houses with the conveniences they were accustomed to and had thought necessary to their comfort when at home, because there had not been anticipation that men in their position would have an ambition to or could afford to occupy the kind of houses they had thought they required; and they could not go into a better neighborhood—that is, the middle-class neighborhood they could afford to live in—because, working before hot furnaces, they must get indoors, for a time at least, as soon as possible after they had finished their work. The company very kindly complied with one of their requirements—somewhat unusual here—by providing them with a convenient place at the works for changes of clothing.

In one of the plants for lap welding, while it was supposed to have been built on American lines, the furnaces were not satisfactory, the brick linings being a few inches instead of many inches thick (my consulate records show that Staffordshire fire brick was formerly shipped to the United States), and the sand for the bottom of the furnace was not satisfactory because, taken from the mouth of a river, it contained dirt, while there was need for a pure sand; and the plant was too close to other machinery. Most of these difficulties have been adjusted to their liking. They secured at last a pure sand, and a better brick is used, so that the furnaces are not down as often as originally and they can now make their bonus for output regularly; and I think I am correct in saying they have tripled any English coal furnace output with one furnace and same number of men—though it is not as great as they might wish, for recently they have produced more than the company can sell, and they have long lay-offs. The butt welders in the other works found in the new machinery that the American plan had been reversed, so that tubes started fast and then went slower, and therefore did not clear, so by an arrangement with the management, the company's draftsman having been placed at their disposal, they have had to rebuild the plant so that the butt welding can start slow and finish fast. As I have not seen any of them since they completed the rebuilding and had the new plant under way, I have not heard what success they have had.

MARSHALL HALSTEAD, *Consul.*

BIRMINGHAM, ENGLAND, *June 9, 1904.*

AMERICAN BOOTS AND SHOES IN DENMARK.

(*From United States Consul Frazier, Copenhagen, Denmark.*)

Since the publication of consular reports on the demand in Denmark for American boots and shoes, one prominent shoe store in Copenhagen has announced itself by a conspicuous sign as the "Headquarters of the American Shoe Syndicate of New York," and a company advertising itself widely as the Danish-American Shoe Company has been organized. It has been impossible to ascertain that either of these institutions carry, to any extent, American-made shoes. On the other hand, it appears they are supplied with "American shoes" of European manufacture, a more or less successful attempt having been made to copy the well-known American model.

Still another fine, large retail shoe store has been opened recently, carrying as leaders fair imitations of the American model. This latter house carries a limited stock of bona fide American-made shoes of the best grades, and informs me that there is a large demand for them.

The facts mentioned above illustrate forcibly the popular demand for the American-made shoe. Unfortunately, the desire of the consumer to come into possession of the real article is often defeated, for the simple reason that in many stores when a prospective customer asks to be shown American shoes he is shown, as a rule, shoes made after the American model, but by European manufacturers.

A large retail shoe store is soon to be opened here by Belgian manufacturers, who, I am informed, will endeavor especially to meet the demand for "American shoes."

It would appear therefore that events are rapidly occurring to establish the correctness of the opinion ventured in the last report upon the subject from this office, that Denmark, Copenhagen in particular, furnishes a splendid field for the establishment of an American shoe store, conducted on American plans, selling only American-made shoes of approved models. One price only, from $3.50 to $4, should be maintained. Such an establishment should succeed in Copenhagen from the beginning.

RAYMOND R. FRAZIER, *Consul.*

COPENHAGEN, DENMARK, *June 22, 1904.*

OUR SMALL SOUTH AMERICAN TRADE.

(*From United States Vice-Consul Handley, Trinidad, British West Indies.*)

One of the most notable features of our trade with South America is its comparative fixity. During the last thirty years there has been an increase of only 5 per cent in this trade, and the sales of 1890 were about the same as those of 1902. Compared with the trade of 1873, our 1902 trade with the world outside of South America has more than doubled. To the 40,000,000 people in South America our yearly sales amount to less than $40,000,000. This seems inexplicable, and is most unsatisfactory. To Mexico, with her 13,500,000 people, we sell a little more than to all South America. We sold to the Canadians last year a little less than $24 per capita, and to the Cubans, without any reciprocity, about $15 per capita. The total imports of all the South American countries approximate $350,000,000. Our share is a fraction more than 10 per cent of this, and this small proportion can not be ascribed to anything but the lack of well-directed trade energy. We buy from them three times as much as we sell to them. We pay them about $120,000,000 a year for their products, and they use the difference of $80,000,000 in purchasing from our foreign competitors the goods with which we ought to balance our accounts with them. In other words, we supply them with funds which enable them to buy from other people things which we grow and manufacture. From 1873 to 1902 our trade with Asia rose from $19,000,000 to $64,000,000; with Oceania, from $4,677,000 to $34,350,000; with Africa it increased from $3,500,000 to $33,500,000; and with our neighbors on the North American continent it grew from $82,000,000 to $204,000,000. During those thirty years our vast trade with Europe has doubled, and our sales in that continent now exceed $1,000,000,000 a year. Of all our trade, that with South America drags the most.

Still, South America grows in population, in the manifold wants of its people, and in the volume and value of its products. Of these products we are fairly liberal purchasers. We buy about one-fourth of all the exports. In the last thirty years we have purchased from South America $1,700,000,000 more than we have sold to it by direct exportation. Undoubtedly a good portion of American-made goods has found its way to South America through British, German, and French houses, which have sold them and made a profit on them. But even granting that, there still remains much trade and a desirable profit which might have been secured by American merchants and manufacturers.

There are numerous explanations and reasons for our failure to secure more of this trade. There will first be urged the lack of shipping facilities. Canada has established a line to South Africa, and it would seem that the United States could find sufficient business for a line to the east coast of South America. A closer study of the people and their wants is most important. German, French, and, in fact, nearly all the European houses make it a point to thoroughly study the wants of the people in the country to which they assign their agents. They do not endeavor to force on the South Americans an article which they desire to dispose of simply because they manufacture it and it can be sold at a large profit. On the contrary, these European houses often send their agents to the South American Republics to make a thorough study of what they use mostly, no matter if it is an article locally made and has never been seen outside of the country where it is found. They collect samples of these articles, noting the local cost and selling price, and send them on to Germany, France, Italy, or wherever headquarters may be, to ascertain if these articles can be made there cheaper and as good. It often proves they can be manufactured better and sold in the very country in which they originated at a lower price than the local article.

The lack of sufficient knowledge of foreign languages is another disadvantage to our trade. The German, French, or Italian agent in South America generally speaks at least three languages, whereas the American seems content with his own language and a "smattering" of one other. This may seem a minor detail in the building up of this trade, but the South American feels far better satisfied if his business is transacted in his native language.

Our trade with South America undoubtedly suffers for lack of American banks and large trading concerns. The two go together, for banking facilities are indispensable to foreign trade. An English or a German bank seeking foreign business can establish foreign branches wherever it sees fit. An American national bank not being allowed to have a branch anywhere, our national banking system is unable to extend the facilities required by international commerce. The English and German trade in South America has the advantage of being sustained by banks whose branches cover the field. Credit at any point where the bank has a branch is available at any other point. Practically our American commerce depends upon English and German banking facilities, and London is growing to be the financial center for American as well as British foreign trade. If there were banking facilities for the present import and export commerce, it is probable that an increase in banking business would lead to an improvement in banking facilities.

Long credits are customary and are generally granted by the European firms. The Americans object to this, and rightly in some of the turbulent republics where the stability of the government is questionable. However, if our foreign competitor can prosper on such terms, I can not see the wisdom of adhering so closely to our short-credit system. Better good accounts on the books than idle goods on the shelf.

Our limited trade with South America can not be explained by anything but the lack of trade energy. We may boast of our American goods in all corners of the earth, and the "hustling" qualities of our commercial men, but the fact remains that foreign trade forms as yet only a small part of the commercial and industrial life of the American people. We sell $900,000,000 worth of food products annually, and principally for the reason that other people come to us to buy them because of their need of them. A large share of our $500,000,000 sales of manufactured articles may be laid to the same cause—others coming to us for that which they know we have and which they need. Notwithstanding the large volume of our exports, we are not yet a trade-hunting nation—at least in South America. A due amount of well-directed and intelligent canvassing by men who speak the language would double our trade with South America in a very few years.

Wm. W. Handley, *Vice-Consul.*

Trinidad, B. W. I., *April 14, 1904.*

GERMAN VS. AMERICAN TOOL MACHINERY.

(From United States Consul Langer, Solingen, Germany.)

Tool machinery prices have not recovered from the pressure of surplus offers, so that factories have been run not only without profit but in many instances at a loss, although they have been somewhat busier of late. Prices have not gone up because large stocks of machines are still on hand, and American competition is keenly felt, owing to the fact that, as is claimed, the United States is placing its surplus output of tool machines upon foreign markets.

The Russian-Japanese war does not appear to have affected the manufacture of tool machinery, except that it has brought some orders for war purposes from Japan.

While the matter of forming a combination for greater unity of action is still being discussed among tool machine manufacturers, no definite steps have been taken.

The trade balance for tool machinery decreased by nearly 1,100 tons in 1903, of which 600 tons were due to a decreased export and the other 500 to an increased import of American tool machines. For the first quarter of 1904 the import increased from 576 tons to 1,070 tons; that is, to a considerably greater extent than the export, which increased from 5,555 tons to 6,279 tons. This is about six times the amount of the import, while last year the export was nine times as great as the import.

The import from the United States during the first three months of 1904 was 578 tons, against 269 tons in 1903, and appearances indicate a still higher increase. This seems to be the chief reason for the continued agitation of German tool-machine factories for higher rates of duty.

Joseph J. Langer, *Consul.*

Solingen, Germany, *May 25, 1904.*

EXPORT TRADE AS AN ECONOMIC FACTOR.

(From United States Consul-General Guenther, Frankfort, Germany.)

The present minister of commerce of Prussia, Mr. Möller, was a leading manufacturer; his administration of the office, his activity, and his speeches show the manufacturer and practical business man.

Just now Mr. Möller is on an inspecting tour in the Silesian manufacturing district, and at a reception given him by one of the chambers of commerce there he made the following noteworthy remarks on Germany's future industrial prospects:

> Germany's greatness has been brought about by her industry and labor force, especially of her business people; in her capacity for work lies Germany's superiority over other nations. Therefore we should be very careful not to stifle or limit opportunities for labor. We Germans can look with confidence toward the future, yet we must beware of entertaining false notions. During the next decade it will not be the individual but the nation which will have to struggle for existence in commerce and manufacturing. There are always more nations appearing in the world's market as new competitors, whereas the consuming capacity of that market does not increase. If the present existing tendency among nations to close their borders against imports attains further growth, we Germans may have to suffer.
>
> In the development of our industries we have not, as England has, confined ourselves to certain specialties; on the contrary we have cultivated all varieties of manufacturing. England's prosperity has already waned because new industrial nations themselves produce the specialties with which England supplied them. These are usually articles manufactured in immense quantities. Herein lies England's danger.
>
> As we work in a contrary direction, it behooves us to promote trade schools in order to stimulate the production of the finest and highest-class articles of manufacture, thereby affording employment to a greater number of persons. Our future depends upon the production of articles which will be sold in foreign markets, as these enable us to maintain our labor force. We must either export our goods or our working people.

The time is not far off when articles for general consumption (textiles, metallic wares, etc.) will be mainly exported by those countries having natural advantages in manufacturing them or producing the raw material.

Thus England and other industrial countries of Europe will have to surrender the world's market to favored nations like the United States. It is only in the manufacture of articles requiring great artistic taste and superior skill in handicraft that the European nations will be able to compete successfully. In these lines France is now predominant, and Mr. Möller's admonition to the German manufacturing class seems to mean, "Follow on French lines of manufacturing for export trade."

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *May 27, 1904.*

MEANS OF EXTENDING TRADE IN AUSTRIA.

(*From United States Commercial Agent Twells, Carlsbad, Austria.*)

I have been in communication with two merchants of this place who, in my opinion, would be proper persons to introduce certain classes of American goods.

One of these is Mr. Adolf Hahn, Carlsbad, Morgenzeile street, who for twenty years or more was manager for Joseph Benedikt, a well-known merchant of technical goods. Mr. Hahn bought the business of his principal and is now conducting it on his own account, dealing with manufacturers of china and other goods. He is the best-known merchant of this district for india rubber, fittings for water and steam works, machinery, straps and other technical leather goods, all implements for heating, agricultural and other machines, etc.

The other is Mr. Rudolf Cisar, Carlsbad, Egerstrasse, who for more than twenty years represented here the European agents of an American sewing machine company. Mr. Cisar is now in business for himself. He knows the country well, and would, in my opinion, be the proper man to introduce American goods in the mechanical line—small machines, agricultural implements, etc.

Manufacturers who would like to introduce their articles in this consular district should communicate with these two firms, as they have declared to me their willingness to introduce American articles. I believe, however, that it would not be of much use for manufacturers' agents to communicate with them, because they are agents themselves and wish to represent the actual manufacturers of American goods.

I am ready to give further information to any merchant or manufacturer desiring it.

Jno. Steel Twells, *Commercial Agent.*

Carlsbad, Austria, *May 27, 1904.*

AMERICAN CEREAL FOODS IN AUSTRIA.

(*From United States Consul Ledoux, Prague, Austria.*)

Commenting upon my report on the possible market in Austria for American cereal foods, dated December 9, 1903,[a] the Oesterreichische Müller Zeitung, of Vienna, says:

> In number 18 of our paper we have reported at length on the recent sales of cereal foods in the United States by means of an enormous expenditure for advertising purposes. As these articles do not appear to sell in America as freely as desired, the manufacturers are making efforts to find a market abroad for their highly praised products, and they intend evidently to confer the blessings of their alleged health-producing cereal foods also upon the people of Austria. Several American manufacturers of the "health foods" some time ago interrogated the American consul at Prague as to the prospects of sales in Austria for their products. Whoever knows the Americans will have no doubt in his mind that the information of their consul will encourage them to venture upon a trial with their product in Austria, although "Quaker Oats," another American product, could not be placed in Austria in quantities of any importance, in spite of excessive advertising.
>
> We think, however, that the American consul has somewhat underrated the taste of the Austrian population, for the Austrians are not likely to relish an article which does not appear to agree even with the stomach of the Americans, who are accustomed to partly raw food. The already hard-pressed Austrian millers will therefore escape any serious competition from "cereal foods." Anyhow, we thought it advisable to call the attention of Austrian millers to this impending danger.

This extract is self-explanatory: The "already hard-pressed" miller of Austria fears the competition of American cereal foods. The statement that cereal foods have not had the success desired in the United States and that Americans are eaters of raw foods will be interesting to Americans.

I still insist that there is a good market in Austria for American cereal foods. Semicerealists already—on account of the high cost of meats—the mass of the population is better prepared than over-meated Americans for the introduction of cereal foods.

As has been stated, manufacturers must not forget the all-important local taste and conditions. Their greatest antagonists will be the popular rolls, rye bread, high duties, and small salaries.

---

[a] Daily Consular Reports for March 1, 1904 (No. 1889)

The duty on cereal foods prepared in the United States is extremely high—35 florins in gold per 100 kilos ($17.05 per 220 pounds). This makes cereal foods in Austria a semiluxury. For instance, a package of American cereal foods costing at retail about 15 cents in the United States would have to be sold at from 25 to 30 cents in Austria in order to secure any reasonable profit. No extensive sales can be made at such prices. It then becomes necessary to import only the raw products from the United States and to manufacture in Austria. This would take the manufacturing benefits from our shores, but would create extensive markets for our cereals.

A strenuous advertising campaign would then become necessary. This should be most practical—the simple advertising of a catchy name of an American natural food, however high-sounding and suggestive it may be, will not secure the Austrian clientele. Not only would an extensive advertising campaign of education on the special nutritive and medical qualities of American cereal foods be absolutely necessary, both in current reading matter and in the display department of newspapers and magazines, but it would also be necessary to advertise the foods by practical exhibits and demonstrations in the larger stores, supplemented, where possible, by practical cooking exhibits and lectures in small halls and at exhibitions on the palatability, nutritive quality, and cheapness of American cereal foods. Advertising in the newspapers and magazines is comparatively cheap in Austria, and thus far is but crudely exploited.

URBAIN J. LEDOUX, *U. S. Consul.*

PRAGUE, AUSTRIA, *May 20, 1904.*

CALIFORNIA PRUNES FROM FRANCE.

(*From United States Consul Tourgée, Bordeaux, France.*)

I have the honor to acknowledge receipt of a dispatch asking the exact meaning of my statement that "California prunes are imported to Bordeaux and there repacked to maintain the superiority of French prunes."

The following is the paragraph in my annual report which I suppose to be that which is referred to:

> The failure of the prune crop would have entailed very serious consequences on the trade of this region but for the large stock of California prunes which were held over from last year, and the sagacious enterprise of French dealers in securing early control of this year's crop on our Pacific coast. Bordeaux is the real center of the prune trade of the world. The methods of preparing this fruit practiced here are so superior to the manipulation it receives elsewhere that California prunes brought here and repacked maintain the superiority of French prunes and are reexported in large quantities to the United States, where they compete successfully with the American fruit which has not incurred the cost of a double exportation.

I can not imagine anything more explicit. Last year (1903), for instance, there were almost no prunes raised in this region, probably not one-twentieth of a normal crop. The deficit was supplied by the importation of prunes grown in California and Oregon. This fact I know from having been required to inspect the condition of such importations and afterward to take testimony in litigation resulting from controversies over the quality and the salability of such prunes.

Though the prune crop of this region was so small as to be almost a negligible quantity in the markets of the world—not enough, in fact, to supply the home demand—the export of French prunes was not materially lessened. A considerable portion of this exportation was to the United States, amounting to 95,000 francs ($18,335) in the last six months. I have been unable to learn that any were shipped as "California prunes." None passing through this consulate were invoiced as such. French prunes are shipped in much smaller boxes than the California product and are so different in appearance that it would be absurd for a Bordeaux merchant to send out California prunes to fill his orders without repacking and reworking.

The chief difference between California prunes and French prunes as they come from the growers' hands is that the latter are "cooked." I have seen a few shipments of California prunes which seemed to have undergone some sort of process to simulate the appearance of French prunes. I do not know what it was, but official experts here concluded that the prunes had been steamed and some viscid substance like glycerin had been used to give the peculiar glistening appearance of the best French product.

The French prune is the result of moist conditions, almost always ripening in a rainy season. It is possible that this has something to do with the difference in the result of treatment. The French prune is allowed to remain on the tree until it is thoroughly ripe and soft. Very often a considerable portion of the crop falls of its own weight. When picked the prunes are placed on shallow crates, just touching one another, and the crates are then put in stone ovens raised to a temperature of about 40° C. This very moderate heat is intended to remove the moisture of the prunes so gradually as to avoid breaking the skins by explosion. They remain exposed to it for several hours, according to their condition, and are then removed and allowed to cool. When entirely cold they are replaced in the oven and the temperature is raised to 80° C., and after a sufficient time they are again taken out and allowed to cool, after which they are replaced and the temperature is raised to 90° or 100° C., the whole process occupying from thirty to forty hours.

This treatment leaves the fruit soft, so that the stone is easily slipped out, and the skin has the glistening appearance always sought in this class of prunes. This is said to be the result of the bringing of the saccharine to the surface by the long process of heating and cooling alternately. The prunes are thoroughly cured, and are not liable to become dry or hard.

After this treatment the fruit is sorted and packed in 50-pound cases and sold to wholesale merchants and exporters. By these it is again sorted and put up in small boxes with various ornamentation. Prunes which are exported to the United States are sometimes packed in jars. They are used as sweetmeats and employed in the making of confectionery—not for cooking purposes. These require a special preparation which is a trade secret, probably varying with the different manufacturers. It is believed that the California prunes are dried in the open air, or at a much lower temperature than the French prunes, and so are fitted for consumption, not as sweetmeats, but only when stewed or otherwise cooked as a table dish. The smaller sizes are usually dried and used for the making of jams and other fruit comestibles.

The ovens that are used in the curing process to which prunes are submitted here are of various sorts, some being of stone and others of metal, but there is nothing special about their construction requiring description. They are simply ovens with bars or flanges to support the crates of fruit. This method of curing produces an altogether different result from that brought about by the mere drying process applied to California fruit. There is no doubt that the importer of California prunes prepares them for sale or export by a process of practically the same character. Precisely what it is I am unable to say.

ALBION W. TOURGÉE, *Consul.*

BORDEAUX, FRANCE, *May 31, 1904.*

AMERICAN VS. GERMAN UNIVERSITIES.

(*From United States Consul Diederich, Breman, Germany.*)

It is interesting to note that of the 37,692 students enrolled in the German universities for the term now drawing to a close, 3,093 were foreigners, of whom 986 were Russians. Female students to the number of 1,314 were enrolled for the term.

These figures do not include such students as are merely guests (hospitants), of whom there are always a rather large number. These enjoy all the privileges of the regular students, but they can not be graduated. If these be added to the others, it is safe to say that fully 10 per cent of those attending German universities are foreigners. Almost one thousand Russians, or nearly one-third of the foreign element, were matriculated last winter. Next come the Austrians and Hungarians, numbering 601, or about 20 per cent. Switzerland furnished 322 regular students, and there were 324 Americans enjoying the same opportunities.

The number of foreign students, especially of those coming from Russia, has steadily grown, but a careful study of the attendance at the German universities seems to show that Americans have not been adding to this increase. Thus, if we look over the reports of the winter half-year of 1899–1900, we find that the total attendance at German universities during that period was 32,834 regular students, of whom 2,369, or about 7 per cent, were foreigners; and that 607 of these were Russians, 455 Austrians, 265 Swiss, and 317 Americans. Thus there were only seven more Americans enrolled last winter than there were four years ago.

During the nineteenth century German universities led the world in erudition and scientific investigation, and their great professors attracted many students from all parts of the world in quest of higher education. But times are altered. Having myself been engaged in educational work as an American college professor for a good part of my manhood, I have naturally taken considerable interest in the life and work at the various institutions of learning in this country, and it is my impression that the facilities for higher education are improving in the United States much more rapidly than in Germany. Despite all our imperfections one can not but admire the great upward strides which the American system of education, from the humble district school up, has been making during the last few decades.

American educational institutions are the best equipped in the world. I know but one German university that can claim to be up to the times in this regard, and it stands third on the list in attendance. There is a steady progress all along the line of public instruction in the United States, and particularly in our higher class of universities.

The regular reports of German universities will continue to show the attendance of American students. Though their number may not increase materially, still they come. And it is well that they should, particularly those that have in view special studies and investigations in certain lines; for Germany is preeminently the land of specialists, and it must be admitted that German devotion to special work has added immensely to the sum of knowledge. Besides, a year or two spent abroad can not but prove to be a great blessing to the average American student, not because he needs it to prepare him for his life's work, but because travel and sojourn in this and other countries are in themselves a liberal education, and tend to broaden the mind, widen the horizon, remove petty prejudices, and supply an independent judgment of men and matters. A few semesters at a German university, bringing a young man in touch with the ideas and methods of the great scholars and scientists of this country, as well as with the spirit of the German student's life, is an advantage generally appreciated all through life. But all this is rather a luxury than a necessity. No American need any longer come to this or go to any other country for higher education. In my judgment the United States offers to-day facilities for collegiate, academical, and postgraduate studies equal in quantity and quality to those offered by any country in the Old World.

HENRY W. DIEDERICH, *Consul.*

BREMEN, GERMANY, *June 10, 1904.*

OUR EXPORTS TO JAPAN.

(From United States Consul Covert, Lyons, France.)

A French political economist, considering the trade of Japan with the great nations of the world, gives the following figures for the exports from the countries mentioned to Japan during 1902:

British India	$25,400,000	China	$20,300,000
Great Britain	25,150,000	Germany	12,400,000
United States	24,350,000	France	2,370,000

In 1903 the four principal exporters to Japan stood thus:

British India	$35,050,000	United States	$23,100,000
Great Britain	24,300,000	China	22,300,000

British India and Great Britain, taken together, are far in the lead. But the following statistics show that the gap between the United States and Great Britain is closing up rapidly:

Exports of Great Britain and the United States to Japan, 1890–1903.

Year.	United States.	Great Britain.
1890	$3,000,000	$13,000,000
1895	4,500,000	22,500,000
1900	31,000,000	35,500,000
1901	21,000,000	25,000,000
1902	24,000,000	25,000,000
1903	23,000,000	24,000,000

The writer concludes that it might as well be admitted that the United States will soon, by reason of its geographical position, exceed all other nations as an exporter to Japan. The United States has almost a monopoly of Japan's petroleum and cotton imports, India being a feeble competitor in importing cotton. The United States, he holds, ought to be able to sell every article of manufacture cheaper than any other country on account of the superiority of our workmen and the use of the best machinery in making our goods.

JOHN C. COVERT, *Consul.*

LYONS, FRANCE, *June 8, 1904.*

GERMAN VIEW OF THE EFFECTS OF THE PANAMA CANAL ON INTERNATIONAL COMMERCE.

(*From United States Consul-General Guenther, Frankfort, Germany.*)

Commenting upon the effects of the Panama Canal upon commerce, the Frankfurter Zeitung, one of the leading newspapers of Germany, says:

The great interoceanic route of navigation in the Western Hemisphere will be open to traffic in about ten years.

The question of how large the traffic of toll-paying vessels would be dominated the whole affair so long as the construction was to be on private account for the sake of profits. At present this question has been entirely relegated to the rear. Nobody thinks of remunerativeness any more. The fruits of the enterprise consist in indirect profits; they must be looked for in the military-political field and in the promotion of American commerce. In this lies the center of gravity of the situation.

Of what real advantage the sole control of the waterway in times of war will be to the United States will be seen only after a long time. The consequences for commercial navigation are more evident. If looked at with European eyes they appear small. What will the Panama Canal offer us? To the whole of eastern Asia and to Australia, inclusive of New Zealand, the way via the Suez Canal will remain much the nearer for Europe. From Hamburg to Hongkong, for instance, the distance via Suez is 10,542 nautical miles, via Panama 14,933; to Melbourne, via Suez 12,367, via Panama 13,198; to Yokohama, via Suez 12,531, via Panama 13,024.[a] The Australian Archipelago plays too unimportant a rôle to have the reduction of distance to it considered in this connection.

For Europe, therefore, there remains a saving only in traffic with the west coast of America. In this Germany, especially Hamburg, participates largely. In commerce with western South America England occupies first place, and is followed by Germany, the United States, and France, in the order named. Of the imports of Chile, in 1902, for instance, England supplied $18,200,000 worth; Germany, $12,500,000 worth; the United States, $6,000,000 worth; France, $3,300,000 worth; all other countries, $10,000,000 worth. These figures, however, are of very slight importance with reference to the total commerce. In 1902 Hamburg imported from western South America goods to the value of $31,200,000; from Central America, $6,400,000;

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[a] The distances given by the United States Commissioner of Navigation are, from Hamburg to Hongkong, via Panama, 14,352 miles, allowing 50 miles for the distance from Colon to Panama; from Hamburg to Melbourne, 13,056; to Yokohama, 12,830.

from Mexico, $4,200,000; from western North America, $5,600,000; a total of $47,600,000. This in round numbers amounts to 9 per cent of the transoceanic imports of Hamburg. Bremen hardly participates in this commerce.

The exports were far less, viz: To western South America, $11,500,000; to Central America, $2,000,000; to Mexico, $7,300,000; to west coast of North America, $1,200,000, a total of $22,000,000, or 4¾ per cent of the total transoceanic exports of Hamburg.

Of these countries Chile is the most important, and is hardly affected, so far as Europe is concerned, by the Panama Canal. Hamburg received from Chile $23,200,000 worth of products and shipped $8,000,000 worth in return. This is between one-third and one-half of the total commerce with the western coast. Vessels laden with saltpeter and guano will undoubtedly prefer the route around Cape Horn, which is not much longer, and for cargoes of such little value will be preferable to that by way of the Panama Canal, which will be subject to heavy tolls.

The exchange of goods with the countries to which the lessening of distance is the greatest, namely, western Mexico and California, is of only moderate importance. The saving of nautical miles between Hamburg and San Francisco and all harbors on the western coast north of Panama is 6,652; south of Panama the saving constantly decreases. Between Hamburg and Valparaiso it amounts to only about 2,400 nautical miles.

This saving is very much larger for the eastern ports of the United States, namely, 9,531 nautical miles between New York and San Francisco, so that New York on this route gains 2,889 nautical miles more than Hamburg. But this is not all. The main fact is that this saving is so large on the route from New York to eastern Asia and Australia that it changes the present disadvantage of New York into an advantage. From Hamburg to Hongkong, via Suez, the distance is 10,542 nautical miles; from New York to Hongkong, via Suez, it is 11,655 miles. Hamburg therefore has an advantage of about 1,100 nautical miles. The Panama Canal will give nothing to Hamburg, but a saving of 1,820 nautical miles to New York, so that the distance will be only 9,835 nautical miles, 707 less than from Hamburg. In routes to the more northern ports of eastern Asia, as well as to those of eastern Australia, the gain of New York grows very materially. From Hamburg via Suez to Melbourne the distance is 12,367 nautical miles; from New York about 12,500. Via Panama, however, the distance from New York is only 10,427, so that New York will be about 2,000 nautical miles nearer to the Australian port than Hamburg. To Yokohama the distance from Hamburg is 12,531 nautical miles; from New York, via Suez, it is 13,564—in round numbers 1,000 nautical miles longer than from Hamburg. Through the Panama route New York gains 3,729 nautical miles in the Japan lines, Hamburg nothing. New York has therefore a distance of only 9,835 nautical miles to Yokohama—that is, in round numbers, 3,700 nautical miles less than Hamburg. In shipping to Japan and northern China, and, in a lesser degree, to southern China and Australia, New York will have the advantage, on account of shorter steamer trips, over Hamburg and the English ports. If Europe has been heretofore in a more dvantageous position, North America will be the favored party when the Panama Canal is built.

Distance is, of course, not the only decisive factor; if it were Trieste would be of greater importance in the Far East than Liverpool and London. It is, however, of great weight. The Panama Canal will favor the chances of the eastern ports of North America in an extraordinary degree. Only in the southern part of the west coast of America will this advantage be small, as the way around the southern end of America will be able to compete with the Panama route, because of freedom from tolls. Of this change of conditions little notice has as yet been taken in Germany, while England has been aware of it for some time.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *June 22, 1904.*

TRADE CONDITIONS IN NATAL.

(From United States Consul-General Guenther, Frankfort, Germany.)

The German consul in Durban has lately sent to his Government a report on the colony of Natal, from which I quote the following:

In 1903 Natal imported goods to the value of £15,100,000 ($73,484,150), of which Great Britain contributed £8,560,177 ($41,658,101) worth; British colonies, £2,047,770 ($9,965,473); United States, £1,674,261 ($8,147,791); Germany, £746,884

($3,634,711); Sweden and Norway, £461,713 ($2,246,926); and Belgium, £176,454 ($858,713). The imports from Italy, France, Austria, and some other countries ranged from £2,000 ($9,733) to £63,000 ($306,590).

The importations from New Zealand, Canada, the United States, Germany, and Sweden show a large increase over those of 1902. The articles mainly contributing to this increase are corn and other food stuffs, agricultural machines and implements, furniture, vehicles, millinery goods, machinery, musical instruments, and toys. The 1903 importation exceeds that for 1902 by £1,750,000 ($8,516,375).

The United States leads in the importation of tramway cars, structural iron for buildings, agricultural implements, electrical installations, machinery, and apparatus, small ironware, stoves, and lumber. Germany leads in sugar, cement, and musical instruments.

Japan is beginning to enter South African markets. The consul says that Japanese press-copy books, made of tissue paper, have driven the German article out of the Natal market, as they are sold at $1.52, whereas the German make sold heretofore at $2.40.

It is to be noted that a large part of Natal's importations go to the Transvaal colony. Among these are machinery and implements for mining valued at £86,530 ($421,098), made up thus: from Great Britain £54,585 ($265,637) worth, from Germany £22,047 ($107,291) worth, from the United States £9,898 ($48,169) worth.

The chief articles of export from Natal in 1903 were: bunker coal, 274,716 tons (Natal's total coal production in 1903 amounted to 713,548 tons); wool, 31,821 bales, valued at £292,231 ($1,422,142); raw sugar, 22,648,280 pounds, valued at £160,257 ($770,890); wattle bark, valued at £70,581 ($343,482); Angora hair, 745,904 pounds, valued at £31,294 ($152,293); hides and skins of cattle, sheep, and goats, valued at £23,008 ($111,968).

The cultivation of the black wattle or Mimosa bark is extending year after year. This article, containing 30 to 36 per cent of tannin, is shipped to Germany and Austria, where it is used for tanning.

The production of sugar cane is also increasing. The sugar derived therefrom goes principally to Cape Colony and the Transvaal. A sugar refinery making lump sugar is already in operation in Natal.

Tea also is becoming a valuable domestic product in Natal. The Natal coffee is of good quality, but the plantations are as yet small in extent and production. Natal and the other colonies of British South Africa would become large and profitable markets for United States producers if the latter were to work them as the British and German manufacturers and exporters do.

Richard Guenther, *Consul-General.*

Frankfort, Germany, *June 11, 1904.*

HORNED CATTLE IN THE TRANSVAAL.

(*From United States Consul Proffit, Pretoria, Transvaal, South Africa.*)

The following figures show the number of horned cattle, with the country of their origin, imported into the Transvaal during the year 1903 by the colonial government for the purpose of stocking the various government farms: Somaliland, 995; Queensland, 300; United States (Texas), 10,000; Madagascar, 20,000; Great Britain, 200; total, 31,495.

Since March, 1903, there were shipped from America (mostly from Texas) 11,206 head, including a private consignment. Seven vessels were employed to bring over these cattle, and the mortality among them is reported as 154 head. Not one case of disease occurred among those that died on the water, every death resulting from injuries sustained by being gored, falling, or other accidents, or from parturition. The mortality was less than 1¾ per cent.

It is regretted that it is impossible to supply accurate information as to the mortality among the Madagascar and other cattle, as they have long since been distributed over the country; but Madagascar and Somali cattle appear to do very well, and the mortality among them is not greater than among locally bred cattle. In regard to the Texas cattle, it is reported that up to February last a total of about 1,580 head had died, principally from Rhodesian redwater. The most prevalent diseases in the Transvaal are African coast fever, ordinary redwater, and lung sickness.

In answer to my question as to whether the American cattle imported have proved to be suitable for the Transvaal climate, the commissioner of lands replied as follows:

> These Texas cattle have now recovered from the effects of the change of climate and the cold winter months, and are doing remarkably well. The bulk of the casualties were deaths immediately after calving, and were the result of a long tedious voyage and the arrival of the cattle in this country during the cold winter months.
>
> We believe these Texas cattle to be most suitable for the Transvaal climate for the following reasons:
>
> After passing through a much more rigorous winter than is ever experienced in the Transvaal, they were shipped from America before they had time to pick up condition and were landed in this country in the middle of another winter. Nearly all were therefore in very poor condition and weak. The cattle we imported privately were turned onto the veldt (field), which was then bare, to pick up a living as they best could, and were given no supplementary food whatever. Sixty-seven of the poorest and weakest of these died before the winter was over (principally in the latter part, when the cold rains came on). In but two instances have we heard of any of these cattle dying from disease, and this occurred quite recently in the Standerton district, the post-mortem showing the symptoms of anthrax. Both of these animals had been rejected by the Government and were very poor.
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> We firmly believe that had even moderate care and feed been given to the weakest of these cattle shortly after landing, the mortality would have been reduced 75 per cent. Continual trucking and moving about of the herds also put them back in condition very considerably, but in spite of this, with very few exceptions, they have acclimatized splendidly and are fat. The calves thrown here have all done remarkably well, and though somewhat smaller than those from Afrikander cattle, are vigorous and healthy.
>
> The experience of the land department as regards the 5,000 head of Texas cattle retained by them is that these cattle have proved themselves well fitted for this country, notably in the areas known as bushveldt (wooded fields), the characteristics of which are quite different from those of the highveldt, and give the real test of the adaptability of particular breeds of cattle to this colony. It has been stated that they should not be imported older than 18 months. This is not, however, borne out by the observations on the progress made by the cattle held by the land department, about which experience shows that if future importations consisted of nothing less than 2-year-olds the mortality during the period of acclimatization would in all probability be considerably less. Apart from the deaths caused by Rhodesian redwater, which is a factor that, it is hoped, need not always be reckoned with, the mortality among the Texas cattle does not appear to have been greater than is usual among Afrikander breeds, but there are some descriptions that appear to do better than others, and a later report in this connection should be valuable in deciding upon the breeds to import in the future.

JOSEPH E. PROFFIT, *Consul.*

PRETORIA, TRANSVAAL, SOUTH AFRICA, *May 10, 1904.*

MINERAL PRODUCTION OF THE TRANSVAAL IN 1903.

The Board of Trade Journal, London, England, June 2, 1904, gives the following statistics of the mineral production of the Transvaal in 1903:

Mineral production of the Transvaal, 1903.

Articles.	January to June.	July to December.	Total, 12 months.
Gold	$27,191,617	$34,262,822	$61,454,439
Silver	77,738	101,082	178,820
Coal	2,007,305	2,265,366	4,272,671
Diamonds	213,912	952,842	1,160,754
Chemicals	53,346	66,224	119,570
Stone, lime, brick, etc	505,221	756,644	1,261,865
Total	30,049,139	38,404,980	68,454,119

The figures of the gold output since the resumption of mining operations subsequent to the war are as follows:

Gold output of the Transvaal, 1901–1903.

Period.	Value of gold.
May to December, 1901	$5,339,617
January to December, 1902	35,532,755
January to December, 1903	61,454,439
Total	102,326,811

A comparative statement of the production of gold, coal, diamonds, and silver during the first quarters of 1904 and 1903 is also given as follows:

Mineral production of the Transvaal, first quarters of 1903 and 1904.

Articles.	January to March, 1903.	January to March, 1904.
Gold	$12,745,758	$18,370,960
Coal	966,365	1,024,861
Diamonds	26,392	868,617
Silver	41,078	52,222
Total	13,779,593	20,316,660

IRON PYRITES WANTED IN GERMANY.

(*From United States Consul-General Mason, Berlin, Germany.*)

In consequence of the diminishing supply of sulphur-containing minerals from Spain and Portugal, from which source the important German manufacturers of sulphuric acid have hitherto been mainly supplied, there is now an active demand in this country for iron pyrites and other cheap sulphide minerals which are adapted to treatment by the standard methods of making sulphuric acid.

It is reported, more or less vaguely, in the American press that important deposits of iron pyrites have been recently discovered in the United States, but nothing definite is known here as to the location and extent of such deposits, what stage of development they have reached, whether there is yet an available supply of pyrite for export, and if so, at what price and under what conditions of freight and delivery.

Owners of pyrite mines in the United States who are prepared to export their product in considerable quantities will receive direct information concerning connections in Germany if they will send to this consulate a statement of their output and facilities, with a small sample of their mineral and such information concerning prices and methods of shipment as would naturally interest a German importer.

FRANK H. MASON, *Consul-General.*

BERLIN, GERMANY, *June 18, 1904.*

DAMAGE TO GOODS FOR PERU.

(*From United States Consul Gottschalk, Callao, Peru.*)

An apparently well-founded complaint has reached me from a prominent firm of importers at Lima, to the effect that cargoes of hardware received recently from both England and the United States have been so damaged by a peculiar oxidation as to be almost unsalable. In both cases the goods came via the Isthmus of Panama. The importers attribute this deterioration of the goods in question to disinfection of cargoes by means of sulphur fumes at the port of Guayaquil.

A careful examination of several articles which were taken out of their original packages in my presence showed in some cases the presence of a very unsightly bluish or blackish stain, and in others the article was completely covered with a coat of red rust. The articles I refer to were machetes, steel bits, chains, etc. I am further informed that a prominent firm of French importers in Lima, who also receive goods via the Isthmus and Guayaquil, have suffered severe loss in recent importations of parasols, velvet and silk purses, and the like, in many of which the oxidation of the metal parts produced an irremediable discoloration of the surrounding folds of cloth.

While it is highly probable that the above deterioration of merchandise is not due to sulphur disinfection in itself, but rather to the effect of the sulphur fumes upon goods which have already accumulated moisture upon the journey, it would be well for American exporters, in packing for ports on the western coast of South America during periods of quarantine,—to have their packages, especially those containing metal goods, hardware, etc., packed as nearly air- and watertight as possible. Goods for this coast are at present subjected to certain necessary fumigations, and it is probable that as time goes on these fumigations will increase in number. At small ports the fumigations are occasionally performed by inexperienced local officials, and there is always some danger, especially in the unskilful use of the Clayton apparatus, that a certain proportion of steam may be introduced into the cargoes fumigated.

A. L. M. GOTTSCHALK, *Consul.*

CALLAO, PERU, *June 8, 1904.*

AMERICAN COAL IN CIENFUEGOS, CUBA.

(*From United States Consul Baehr, Cienfuegos, Cuba.*)

The receipts of American coal at the port of Cienfuegos during the year 1903 amounted to 61 tons of anthracite and 49,866 tons of bituminous.

In connection with these figures it should be borne in mind by shippers that the bulk of this coal was consumed on the neighboring sugar estates, and as the present year promises to surpass all preceding years in activity in sugar production in this locality, it is quite probable that the importation of coal during 1904 will greatly exceed that during 1903. The principal consumers of coal in this city are the electric, gas, and ice plants and two foundries. Charcoal is used almost exclusively in this country for cooking purposes, and stoves and furnaces for heating the dwellings during the short cool season are entirely unknown.

Some of the sugar growers import their coal in their own name, while others obtain their supply from a local agent. There is but one coal dealer in this city, hence competition in prices does not exist. One consumer of coal, whose yearly consumption hardly justifies him in importing direct from the United States, is now doing so rather than pay the prices of the local dealer.

The gas company uses a special coal supplied by the Westmoreland Coal Company, of Philadelphia. It costs them, delivered here, from $7 to $8 a ton. The electric plant also uses Westmoreland coal, but buys from the local dealer. The per ton transportation rates from New York, Philadelphia, and Baltimore vary from $1.75 to $2.25. The season of the year and the quantity imported determine the cost of freight. Cumberland coal is used here as well as Westmoreland, and it may be said that the price of all bituminous coal varies in this market from $5.50 to $8 a ton.

All the local consumers of coal would welcome competition, but in order to compete with the present dealer, who is well established, it would be necessary for a newcomer to be well equipped financially. Although the bay of Cienfuegos is one of the largest and finest in the world, the docking facilities at the port are inadequate, hence the lighterage business is an important and lucrative industry, while the lack of modern labor-saving appliances for unloading lighters materially enhances the price of every commodity.

It will be seen from the foregoing that if a new man were to engage in the coal-importing business in this city he would doubtless have plenty of customers, but, as I have indicated, he should possess sufficient capital to successfully compete with strong opposition, and should look the field over personally before entering it.

MAX J. BAEHR, *Consul.*

CIENFUEGOS, CUBA, *June 8, 1904.*

AMERICAN SEWING MACHINES IN GERMANY.

(From United States Commercial Agent Harris, Eibenstock, Germany.)

In order to protect more thoroughly the sewing-machine industry in Germany against foreign, and especially American, competition, the German Union of Sewing Machine Manufacturers is preparing a petition which will soon be presented to the German Government. According to German press reports, some of the main features in this petition may be summed up as follows:

In the development of German machine construction the sewing machine has occupied an important place. From year to year the sewing-machine industry has grown in dimensions, until now 20,000 laborers are employed in producing an annual output of more than 1,000,000 machines. It is evident that an industry of such dimensions must be more or less dependent upon exports to foreign countries. It is asserted that while during the past ten years the exports in sewing machines from the United States and England have increased only 62 and 94 per cent, respectively, the exports from Germany have increased fully 220 per cent.

The following table shows the extent of Germany's foreign commerce in sewing machines during 1902:[a]

Value of German imports and exports of sewing machines, 1902.

Country.	Imports.	Exports.
Belgium	....	$330,344
France	....	698,054
Great Britain	$700,672	559,300
United States	789,208	....
Italy	....	260,610
Holland	....	288,456
Austria-Hungary	....	341,530
Russia	....	1,212,134
Sweden	....	135,898
Switzerland	....	207,774
Brazil	....	163,506
Australia	....	125,426
Total	1,489,880	4,323,032

The import of American sewing machines into Germany during the past four years was as follows:

Value of German imports of American sewing machines, 1899–1902.

Year.	Tons.	Value.
1899	1,907	$716,340
1900	2,497	1,071,476
1901	1,842	838,426
1902	1,728	789,208

It will be seen that the import of American sewing machines shows no increase. German manufacturers, however, demand better protection. They claim that the American companies doing business in Germany cater direct to the consumer through an army of agents, while the German manufacturer, for the most part, still adheres to the method of selling to dealers.

ERNEST L. HARRIS, *Commercial Agent.*

EIBENSTOCK, GERMANY, *April 23, 1904.*

OUR TRADE OPPORTUNITIES IN CYPRUS.

(*From United States Consul Ravndal, Beirut, Syria.*)

In continuation of my former reports on the industries and commerce of the island of Cyprus, I now quote as follows from the speech of the high commissioner delivered to the legislative council at the opening of the session, March 23, 1904:

> The scarcity and distress which were occasioned by the prolonged drought during 1901 and 1902 were followed by a year of plenty, and the island was blessed with a bountiful harvest. * * *
>
> The Government has been using every endeavor to assist and develop the agri-

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[a] From the Statistisches Jahrbuch für das Deutsche Reich, 1903.

> cultural interests. The board and the director of agriculture are pressing the introduction of improved machinery for the various processes in order to save time and labor and to place the produce on the market in better condition. Machinery specially adapted to the needs of the country is obtained by the board and sold on easy terms to the farmers. The Government has started a Government model farm and stock breeding establishment at Athalassa. * * *
>
> I am glad to say there is a strong movement among the people to extend tree planting throughout the island. In this connection the Government nurseries in various districts are doing most useful work. * * *
>
> The Government is convinced that an agricultural bank is required for the island.
>
> * * *
>
> The manufacture of wine of a much better quality than has been formerly produced is being extended by private firms, and the manufacture of brandies of a high class is also being carried on. The raisin trade is increasing. * * *
>
> Notwithstanding the previous adverse seasons the production of silk has held its position. * * *
>
> There has recently been a great extension in the cultivation of linseed. * * *
>
> Various other exports show signs of increase, as, for instance, the trade in gypsum, which was about doubled during the year 1903.
>
> A concession of the monopoly of fishing for sponge in the territorial waters of Cyprus has been granted to the board of agriculture for ten years. * * *
>
> The contract harbor works at Famagusta are making good progress and ought to be finished during the present year.
>
> The construction of the railway from Famagusta to Nicosia, and thence, if funds permit, across the island to Karavostassi, on the western coast, has commenced, and will be pushed on with rapidity. * * *
>
> There are 680 miles of main roads now constructed, in addition to the village roads. * * *
>
> The irrigation works in the eastern Messaoria plain have been extended and the channels prolonged, bringing additional land of good quality within the benefit of the works.
>
> The prospects for the coming year are fair. In every part of the island there is improvement in the material comfort and well-being of the inhabitants. * * *

From the address of the legislative council in reply to the speech of his excellency the high commissioner, I quote only a few lines, to wit:

> * * * Nor can it be considered that with the establishment and maintenance of a few nurseries and the introduction of a few plows and reaping machines and of the single thrashing machine the purpose of the agricultural department has been accomplished. All of these things are, of course, good; but also the extension to general use of the method of cultivating the land by more perfect machinery than that now in use, which dates from the time of Hesiod. * * *

As in Syria, so in Cyprus the age of machinery is just dawning. Both provinces present virgin territory for American manufacturers and exporters of agricultural machinery. I would advise these to correspond with Mr. Gennadius, director of agriculture, Nicosia, Cyprus, and with P. J. Louisides & Co., exporters and importers, Larnaca, Cyprus.

Abundant crops were harvested in Cyprus last year, and prospects are good for 1904. The following returns relating to the cereal production of the whole island for the last five years are collected from official sources:

Cereal products of Cyprus, 1899–1903.

Year.	Wheat.	Barley.	Vetches.	Oats.
	Kiles.[a]	*Kiles.*	*Kiles.*	*Kiles.*
1899	1,580,966	2,029,416	191,814	221,594
1900	2,184,578	2,757,380	160,013	341,528
1901	1,338,064	1,742,036	186,423	282,213
1902	885,436	1,354,641	79,860	234,234
1903	2,445,641	3,907,117	157,329	475,705

[a] A Cypriot kile is 25 per cent less than the Beirut kile, which corresponds to 73.58 pounds (dry measure) and 9.50 gallons (liquid measure).

Commerce between the United States and Cyprus is as yet in its infancy, but is likely to grow, especially along agricultural lines, we buying Cyprus wool, skins, and wines, the Cypriots buying from us agricultural implements and machinery, including wind and oil engines for irrigation purposes. The total trade of Cyprus amounts to $4,000,000, about equally divided between exports and imports, and is gradually increasing.

G. BIE RAVNDAL, *Consul.*

BEIRUT, SYRIA, *May 17, 1904.*

HINTS FOR LEATHER EXPORTERS.

Das Handels-Museum, June 2, 1904, says:

> The German consul at Madrid reports that Spain gets a good deal of calf leather from Worms, Germany.
>
> The German consul at Rustchuk reports that the native Turkish tanneries and leather shops are losing ground because of foreign competition. Hungary and Italy furnish 40 per cent of the sole leather used; France, 20 per cent. Of wax and goat leather, Germany furnishes 70 per cent; France, 30 per cent. Germany alone furnishes lacquered leather, buggy leather, and shoemakers' supplies. Russia furnishes boot leather and leather for caps. Hungary supplies saddle leather. Austria-Hungary supplies women's and children's shoes.
>
> The German consul at Beirut says that in 1902 about 2,000 bales of calf hides were imported into Beirut, of which France supplied one-half, Hungary, Germany, and Italy the remainder. Germany supplied lacquered leather to the value of $27,020. France furnished three-fourths of the colored leather, the remainder coming from Hungary. Box calf comes almost exclusively from Germany. American goods, while cheap and good, suffer from lack of transportation facilities. Shoes come mostly from Switzerland. Germany and Austria furnish other leather goods. Gum or rubber shoes are shipped from Austria, Russia, and America.
>
> The Austro-Hungarian chamber of commerce in Alexandria reports that the market for European foot wear is increasing. Switzerland leads in the imports of leather goods. England, France, and Italy also furnish shoes for men, women, and children.
>
> The Austrian consul at Tripoli reports that imports of sole leather come mostly from England, but also in smaller lots from Italy.

TURKISH CUSTOMS INSPECTION OF IMPORTATIONS.

(*From United States Consul-General Dickinson, Constantinople, Turkey.*)

Further answering the Department's circular dated June 20, 1903, entitled "Importations of Food Products," I inclose herewith a translation of the Ottoman law of 26 Cheval, 1317 (February 14, 1900), concerning the examination of food products imported into the Empire.

If, in accordance with the law of March 3, 1903, certain American food products were, before exportation, examined by an official of the Department of Agriculture it would undoubtedly have a good effect upon the local merchants.[a]

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[a] A copy of Consul-General Dickinson's report was sent to the Department of Agriculture, and in his letter acknowledging its receipt the Secretary of Agriculture says, in part:

"The dispatch from the consul-general is one of great interest, especially to American citizens exporting flour to the Ottoman Empire, and I suggest that it be published and distributed to the manufacturers and exporters of flour from the United States.

"I beg to inform you, also, that under the existing law the Department of Agriculture is ready at all times to inspect cargoes of food products intended for export to countries where chemical and physical tests are applied. This Department, after such inspection, will give a certificate covering the facts which are brought out by such analysis. This certificate can be presented to the officials of foreign countries to which the food products in question are exported."

At the present moment there is considerable reluctance to import American flour, owing to the difficulty regarding the 25 per cent elasticity required in the gluten. (See Article XV of rules hereto annexed.) American flour would certainly under ordinary conditions be given the preference to that of Austria, Roumania, or France. Quite recently a shipment of some 500 bags of American flour was refused entry owing to lack of elasticity in the gluten, although the amount of gluten was ample. Such incidents would probably be avoided if the shipment were examined by a recognized authority before leaving the United States.

At present this consulate-general has no reason to expect relief on appeal to a higher authority when the chemists of the Ottoman custom-house declare a certain article to be injurious to the public health. The certificate of a local analyst does not carry sufficient weight with the authorities to overcome the decision of their own chemists. But a certificate issued by an unbiased officer of a foreign government before shipment of the goods would be given serious consideration, and though not conclusive would greatly aid in securing the admission of the goods.

CHAS. M. DICKINSON, *Consul-General.*

CONSTANTINOPLE, TURKEY, *May 3, 1904.*

RULES CONCERNING THE MEDICAL EXAMINATION AT THE CONSTANTINOPLE CUSTOM-HOUSE.

THE EXAMINATION AND ANALYSIS.

ART. I. The articles hereinafter enumerated are submitted on their arrival at the custom-house to a medical inspection:

(*a*) Chemical preparations, drugs, and specialties.
(*b*) Food stuffs and spirits.
(*c*) Soaps, painted toys, etc.

ART. II. The medical examination, and, in case of need, analysis of articles submitted to custom-house inspection, will be performed as quickly as possible by the technical functionaries of the customs service. No charge will be made for the first examination. The necessary wrappers will be supplied free of charge.

ART. III. After the usual customs examination and the registration of the above-mentioned articles in the books of the custom-house, the registers and samples taken in the presence of the proprietor (the samples being contained in sealed bottles or vases) will be sent to the technical council of the custom-house.

If immediately after having examined the samples in numerical order and according to the prescriptions of science, or after having, when necessary, submitted the said articles within two days to a chemical analysis, if the chemists permit the entry of the same they will place their seals at the foot of the register and return them to the custom-house. The merchandise will then be allowed entrance after the custom duties are acquitted.

ART. IV. If the examined articles are found to be adulterated, sour, or harmful to health, the chemists will make a note of this fact in the custom-house register, which they will thereupon sign.

In this case the samples will remain for ten days in the analytical laboratories, where they will be sealed in the presence of the owner and will also bear the date of the analysis.

ART. V. Merchandise which, after inspection, is not allowed entry and which the customs administration withholds, is to be returned to the place of origin or sent to a foreign country, at the option of the owner, who, on being notified, must furnish a guarantee.

ART. VI. If the owner of the merchandise is not content with the result of the examination made by the technical council he must, within eight days from the date marked on the sealed sample, according to the requirements of Art. IV, address himself to the custom-house and demand a second analysis, which will be made by the imperial school of medicine. Any demands made after eight days will not be accepted.

ART. VII. If within the eight days the proprietor should demand a second analysis of the merchandise, the samples kept in the laboratory of the custom-house, together with the fees for the analysis, payable in advance by the proprietor, will be sent to the central administration of indirect contributions, which will forward them to the direction of the imperial school of medicine.

The second analysis must be made by the laboratory of the said school within a maximum period of fifteen days, and the general administration of indirect contributions will be immediately notified of the result.

ART. VIII. In the case where the analysis of the articles by the school of medicine shows that the proprietor was right, the samples will be returned to the general administration in order that the fees paid in advance be returned to him. In the contrary case the proprietor will have no right to demand the reimbursement of the fees for the analysis.

ART. IX. The fees for analysis are payable according to the tariff contained in the second volume of the Civil Code. In the case of several samples of similar merchandise, fees for analysis will be charged on one sample only. Should the samples, however, contain different species of merchandise, a tax will be levied separately upon each of them.

CHEMICAL PREPARATIONS OF SPECIALTIES.

ART. X. The importation of medicines the composition of which is not known, and which do not conform with the dispositions of the French "codex" adopted by the Imperial Government, is prohibited.

If the drugs are of unknown composition, but have been accepted by any official academy, the owner must present to the direction of the imperial school of medicine the diploma admitting entry of said drugs, together with the formula and sample thereof, or where there is no act of admission the formula, together with a sample, must be presented, showing the composition. Importations will be permitted when the authorization of the school of medicine is obtained, but it is necessary that the documents presented be viséed by an Ottoman consul.

ART. XI. Specialties of which the usage has been recognized as harmful, such as cocaine and its compositions, sulfonel, Doctor Koch's antituberculosis serum, etc., that is to say, specialties prepared with hashish of which the import is prohibited, are returned under guarantee [that they will be sent out of the country].

ART. XII. The entry of articles such as chlorate of potash, chlorate of soda, nitrate of soda, nitrate of potash, picrates, nitroglycerin, and gun cotton is prohibited. These articles are confiscated on their arrival here.

ART. XIII. The following prohibited drugs, i. e., chlorate of potash, chlorate of soda, nitrate of potash, nitrate of soda, and picrates, being necessary in medicine, will be furnished through the grand maîtrise of the artillery in such quantities as shall be decided by the school of medicine. For use in the various arts and trades the quantities will be fixed by the proper authorities. The entry, however, of pastilles of chlorate of potash and other similar preparations in the shape of specialties and which can not be used for explosives is permitted.

DRY PROVISIONS AND LIQUIDS.

ART. XIV. The entry of oils arriving at the custom-house, which, after analysis, are recognized as not fit for food, either because they contain harmful ingredients or are rancid or soured, is prohibited. These oils, however, when used for manufacturing purposes, may enter after having been colored, as also may cotton-seed oil and other similar vegetable oils, also olive and sesame-seed oils when mixed with the above-mentioned oils.

[NOTE.—Only olive, sesame-seed, and almond oils are considered as being fit for food.]

ART. XV. Flour which, on arrival at the custom-house, after examination and analysis, is shown not to contain a mininum of 9 per cent gluten, or which does not show an elasticity of at least 25 degrees, according to the indications of the special instrument, is to be sent away to another country.

ART. XVI. The import of coffee and tea which have been colored or adulterated with noxious substances, as also of artificial teas or coffees, is prohibited.

ART. XVII. Dry provisions, liquids, sugars, and sweets colored or adulterated with any noxious substances which are harmful to health will be returned to their place of origin.

Provisions, such as sardines, cheese, and other similar articles which have gone bad shall be destroyed according to law.

ART. XVIII. The entry of alcoholic liquors which are mixed with salicylic acid for preservation or which are colored or contain harmful substances is prohibited.

The formalities with regard to spirits such as champagne of well-known brand and high price, on the labels of which the quality is stated, are performed directly by the aforementioned custom-house officers.

SOAPS, PAINTED TOYS, ETC.

Art. XIX. In order to obtain admission, soaps arriving at the custom-house must not contain more than ½ per cent of caustic soda, and must be free from silicate of soda, chalk, talc, and other analogous caustics.

Art. XX. The importation of toys, paper, or envelopes used for the packing of provisions, etc., is forbidden if they have been colored with harmful matters, such as compounds of lead, chrome, mercury, copper, antimony, arsenic, Lyons blue, analine, and other matters prepared from coal tar.

OTHER PROVISIONS.

Art. XIX. The provisions relative to custom-house formalities contained in the law of May 16, 1300 (Chaban 6, 1301), concerning the duties of inspectors of medical products, and the instructions dated June 25, 1301 (24 Ramazan, 1302), concerning the commission of public hygiene, will be canceled from the date when these rules shall be put into force, except in the case of merchandise manufactured in the country.

Art. XXII. Five chemists and 2 doctors will be employed in the laboratory of the custom-house at Constantinople. They will all act in concert.

Art. XXIII. The provisions of the present rules are also applicable in the custom-house of the provinces. In places where there are no chemists the analysis will be made by the municipal doctor.

Art. XXIV. The administration of indirect contributions is charged with the putting into force of the present rules.

le 26 Cheval, 1317. }
le 14 Fevrier, 1315. } February 26, 1903.

NEW RADIUM FINDS AND CURES.

(From United States Consul-General Guenther, Frankfort, Germany.)

The Frankfort News of May 26 contains a lengthy article under the caption "New radium finds," from which the following extracts have been taken:

Presumably radium is widely, though extremely finely, distributed in the crust of the earth. In spite of its probable frequency of occurrence, the total amount of this mysterious element is relatively small, and even if new finds should continue to be reported it is not to be expected that radium will cease to be the most precious stuff in the world.

Hardly a day passes without news of new finds of radium in some country.

It is said to exist in the layers of Oxford clay in southern England. Particulars are not given, but the report ventures the hope that in the near future these clay deposits may become more valuable than gold mines.

The chemist Laudin, in Sweden, has discovered a large deposit rich in uranium, the element with which radium usually occurs, and Mr. Laudin has already produced radium from it. The location of the deposit is still kept secret.

In many mining districts of Portugal uranium has been found to exist, and it is said that the Portuguese Government is inclined to establish a radium industry which is expected to become very profitable. A commission of experts has been appointed by the Government to investigate and report.

Sir William Ramsay, the great English physicist, has recently stated that spreading ulcers have been cured with radium, and that it possibly may be an infallible remedy. On the other hand, no attempt to cure real cancer has been successful, which Mr. Ramsay ascribes to the fact that these ulcers go too deeply into the tissues of the body and are therefore not reached by the rays of radium. Prof. J. J. Thompson, of the Philosophical Society of Cambridge, states in a lecture that radium is found very frequently, but that, nevertheless, the fortune of the richest American millionaire would not be sufficient to buy 1 kilogram (2.2 pounds) of radium, provided that so much had already been produced.

Richard Guenther, *Consul-General.*

Frankfort, Germany, *May 27, 1904.*

HUMAN AND ANIMAL TUBERCULOSIS ALIKE.

(*From United States Consul-General Guenther, Frankfort, Germany.*)

The Paris Daily Messenger contains the following, from London:

Is tuberculosis in animals and tuberculosis in human beings one and the same disease? A most important discovery on this question is announced by an interim report of the tuberculosis commission, consisting of Sir Michael Foster (chairman), Dr. G. Sims Woodhead, Dr. Sidney Martin, Mr. J. McFadyen, and Mr. Robert Bruce. The commission set themselves to answer the following questions, working by the aid of experiments:

1. Whether the disease in animals and man is one and the same.
2. Whether animals and man can be reciprocally infected with it; and
3. Under what conditions, if at all, the transmission of the disease from animals to man takes place, and what are the circumstances favorable or unfavorable to such transmission.

The commissioners say the view has been expressed that the bacillus which gives rise to tuberculosis in the calf, cow, or ox is specifically distinct from the bacillus which produces tuberculosis in the human being. It follows from this that the presence of the bovine bacillus in the milk or flesh of the cow consumed by man can not be a cause of tuberculosis in the latter. To see if this view is right or not has been the particular work of the commission, who considered the results of their experiments on the subject so important that they issued the interim report.

They injected calves and cows with every variety of human tuberculosis, and other calves and cows with the varieties of bovine tuberculosis. They carefully compared the diseases set up by material of human and of bovine origin, both in their broad, general features and in their finer histological details, and they have so far failed to distinguish one from the other. The results are so striking that they felt it their duty to make them known. A further report will give details of the experiments. Up to the present the commission has made use of more than two hundred animals, the experiments being carried out at Stansted by the permission of Sir James Blyth. "Our results," says the commissioners in their conclusions, "seem to show quite clearly that it would be most unwise to frame or modify legislative measures in accordance with the view that human and bovine tubercle bacilli are specifically different from each other, and that the disease caused by the one is a wholly different thing from the disease caused by the other."

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *June 3, 1904.*

"NONEX," A DEVICE TO PREVENT OIL OR GASOLINE EXPLOSIONS.

(*From United States Consul Halstead, Birmingham, England.*)

The Nonex is a device which, according to public tests made recently in London, renders all receptacles containing inflammable liquids comparatively secure from explosion. The device is an application of the principle of the Davy lamp, supplemented by a fusible cap or plug.

If a vessel of ordinary type containing an explosive liquid be subjected to sufficient outside heat, or if the contents be lighted at the orifice, the walls of the tank will burst by the force of the expansion. At an exhibition given by the owners of the patent, the Non-Explosive Device Company, a 20-gallon tank was partly filled with gasoline and placed upon a lighted bonfire. The fusible screw cap, made in two parts which were simply soldered together, soon blew out, the solder having melted, and the ascending vapor caught fire immediately; but no explosion followed, because the orifice of the tank formed the upper end of a tube which projected down inside the vessel to its bottom, where it was closed. To allow the oil or gas to percolate from the interior of the tank each of the metal layers of which this tube was composed had been perforated, and, while the perforations would permit the spirit to be poured out, they prevented the passage of the burning gas to the interior by absorbing its heat as the wire gauze does in the Davy lamp. While the gasoline contained in the tube burned the flame did not extend to the liquid or accumulated vapor in the half-full tank, and consequently there was not sufficient expansive force generated to burst the tank. The flame was easily extinguished with a bundle of rags and then lighted and put out several times. The gasoline would, I judge, percolate constantly through the perforated layers of metal to the inside of the tube and there keep up a continuous burning; but according to the accounts of tests which I have read, the flame does not appear to have been allowed to burn any length of time to see how long the metal layers of the tube could absorb the heat without becoming so hot that they would heat and dangerously expand the gasoline in the tank. A motor car tank to which the device was affixed was lighted with a match and extinguished at will. A gasoline can without the device exploded almost instantaneously when lighted.

The device applied to small gasoline cans, kerosene drums, and other petroleum containers would undoubtedly serve a desirable purpose.

MARSHAL HALSTEAD, *Consul.*

BIRMINGHAM, ENGLAND, *June 6, 1904.*

IMPORTANT INVENTION IN TEXTILE MACHINERY.

(*From United States Consul Pike, Zittau, Germany.*)

An invention has just been perfected that will, without doubt, attract the attention of the textile manufacturing world. It is a warp-twisting machine that fastens the ends of two warps by twisting the single threads together. It is designed to do away with the present method of twisting by hand, which is necessary in order to fasten the ends of the warp in the loom to those of the new warp without taking the former out of the shafts.

The inventor is Mr. Gustav Hiller, of Zittau, a prominent manufacturer. The machine represents six years of patient labor, and has become an accomplished fact only after repeated failures. I am informed by manufacturers and experts thoroughly conversant with this branch of the manufacturing industry that there is at present no such machine in use, or at least none that has proved entirely practical. The history of many patents on machines designed to perform this work seems to be a history of failures.

I have witnessed a demonstration of the workings of the machine in company with persons entirely competent to pass judgment, who declare it a complete success.

As is shown by the accompanying illustrations, both warps are put

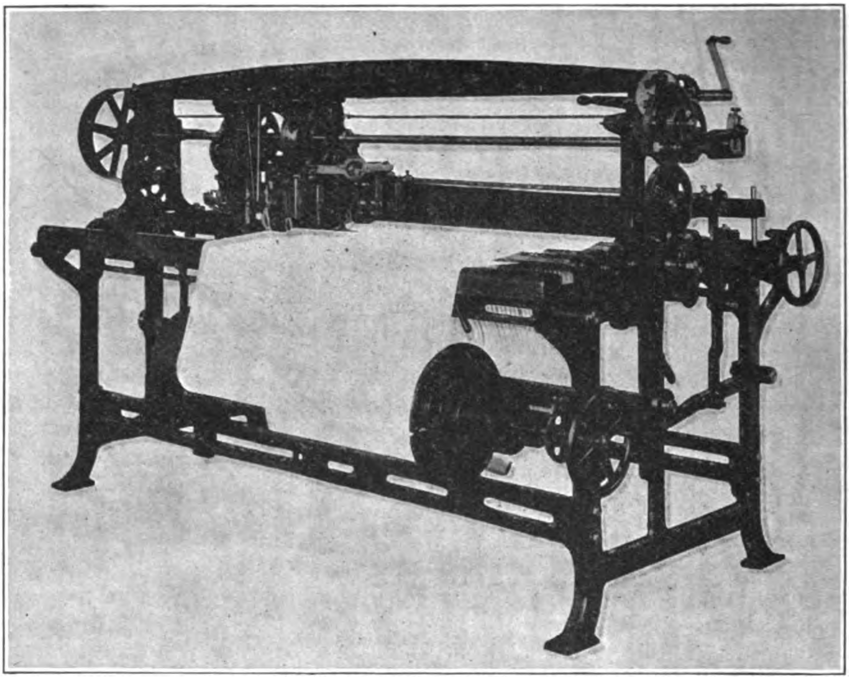

FIGURE 1.—Warp-twisting machine at the beginning of the operation.

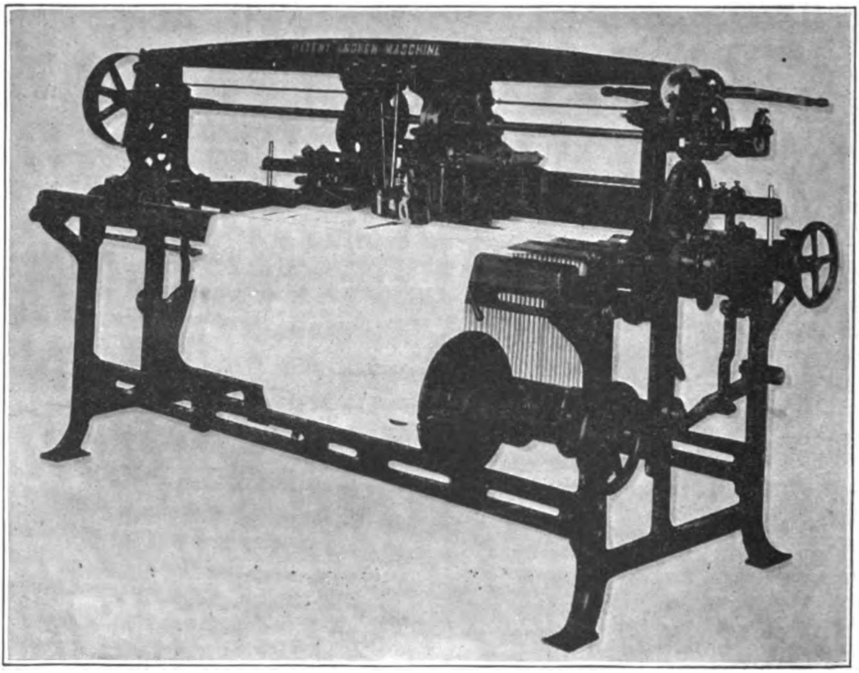

FIGURE 2.—Warp-twisting machine during the operation.

into the machine with cross rods in such a way that they are directly opposite each other, and the ends are held together by a press, which is lifted by the machine, in order to slacken the warp, at the moment that the two threads which are about to be fastened together are taken into the twisting apparatus. The machine works automatically; takes a single thread from each warp, cuts them, and twists them firmly together.

The accompanying illustrations show the machine in two different working positions. Figure 1 shows the mechanism, which moves above the warp, about to begin the operation of twisting on the first ends. Figure 2 illustrates the machine in the middle of the warp after having twisted one-half of the ends. Figure 3 shows the so-called twist; that is, the nature of the binding.

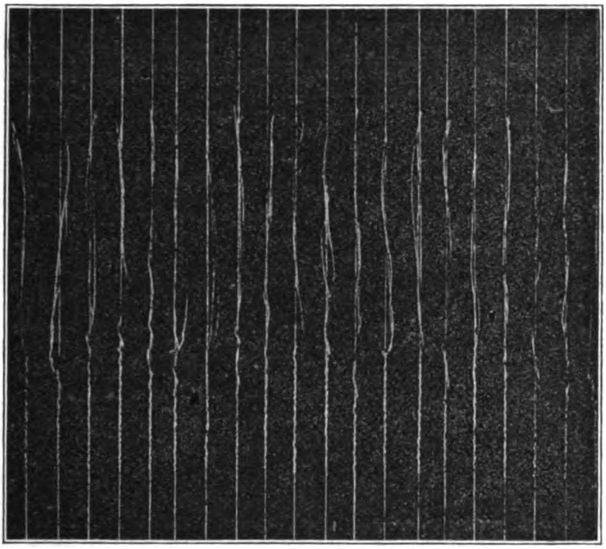

FIGURE 3.—The ends of two warps as joined by the new machine.

This machine is applicable to all classes of yarns, be they cotton, wool, linen, or silk. It is able to twist about 2,500 ends in an hour, whereas a good hour's work for an expert twister is 800 to 1,000.

Considering that the machine does the work of about three experienced twisters and can be operated by an inexperienced workman, the advantage of its use is very perceptible, and it will no doubt quickly supersede the old method, especially where plain and dobby looms are largely used.

WILLIAM J. PIKE, *Consul.*

ZITTAU, GERMANY, *June 15, 1904.*

RECENT ARCHEOLOGICAL EXCAVATIONS IN SYRIA.

United States Consul G. Bie Ravndal, of Beirut, Syria, forwards, under date of May 21, 1904, a report on the recent archeological discoveries at the Tel el Mutesellim, the supposed site of Megiddo of the Israelite kings, a city fortified by Solomon and held by the early Pharaohs of Egypt between 2000 and 3000 B. C. The excavations are in charge of Gottlieb Schumacher, Ph. D., C. E., consular agent of the United States at Haifa, with whom Consul Ravndal hopes that American universities or scientific organizations will see their way clear to cooperate in the exploration of Palestine. Mr. Ravndal says:

> The site of Megiddo is located on the southern border of the plain of Esdrælon, in the country of Samaria, 18 miles to the southeast of Haifa, in the present district of Jenin and Nabulus. The Tel el Mutesellim reaches an altitude of 626 feet above the Mediterranean and is the most commanding point overlooking the great plain of Esdrælon and Jezreel. Its superficial area is 16 acres. In the immediate neighborhood is situated the ancient Roman city of Legio, the Lejjoun of to-day.
>
> The excavations are carried on in behalf of the German Society for the Exploration of Palestine (at Leipzig) and the German Orient Gesellschaft, and are patronized by the German Emperor, who has contributed largely to the funds of both organizations.
>
> The excavations were commenced in April, 1903, and have been continued, with but short interruptions, up to the present time. They will be completed, it is expected, within the next five years.
>
> Among the interesting discoveries made by Doctor Schumacher may be mentioned:
>
> 1. A large prehistoric temple or castle with a fortification wall of small stone and dried brick (opus reticulatum). Canaanite.
> 2. A stone altar and cistern for receiving blood and bones of the sacrifice. No tools used. Canaanite.
> 3. A large subterranean chamber built of huge blocks of hard limestone, one overleaning the other. Probably a treasury. Canaanite.
> 4. Human graves, or foundation sacrifices, with a collection of very interesting weapons, jars, and instruments of bronze and bone, of the date of the so-called bronze age, 1500–2000 B. C.
> 5. A beautifully cut jasper seal, representing a roaring lion and bearing the inscription, "Of Shima, abed of Jeroboam" (king of Israel), 930 B. C. Presented to the Sultan.
> 6. A Babylonian cylinder of jasper with cuneiform inscriptions.
> 7. Twelve monoliths or messebas of stone, adored and used as holy shrines by the Israelites of the days of the kings of Israel. The monoliths bear ancient Hebrew letters on their surfaces.
> 8. An Israelitic shrine containing two messebas and nine jars filled with infant bones, sacrifices of the primogenitary and of twins. The children were suffocated with dry earth and ashes filled into the jars, in accordance with a cruel adopted Phœnician cult.
> 9. Quite a number of amphoras, important stone and flint implements, specimens of the oldest known pottery, idols in pottery, glass, stone, and bone, Egyptian scarabs, etc.
> 10. A huge wall built of dried bricks, like those in Babylonia, measuring 14 to 27 feet wide, surrounding the Tel el Mutesellim.
>
> Up to date the deepest trench, carried down 69 feet, has not reached natural ground, although it has pierced through seven cities, the layers of each being distinctly visible. There may therefore yet be discoveries of great scientific importance on the site of Megiddo.

The firman under which the excavations are being prosecuted is granted in Doctor Schumacher's name.

SHELLAC IN INDIA—CAUSE OF GREAT ADVANCE IN PRICE.

(*From United States Consul-General Patterson, Calcutta, India.*)

In response to letters recently received from consumers of shellac asking the cause or causes of the advance in prices, I submit the following facts:

Lac is produced in almost every province in India, but principally in the Central Provinces, Bengal, and Assam, from which the largest amounts exported are obtained. That produced in other districts is chiefly consumed in local manufactures of bracelets, rings, beads, and other trinkets worn as ornaments by the women of the poorer classes, and in the manufacture of wood lacquer work, which seems to have been begun in very remote times. Some very artistic work is now done in this line.

Lac is the incrustation deposited by the lac insects on the branches of certain trees, and is collected, as a rule, by the jungle tribes, who break off the branches on which it is deposited. In this state it is called stick lac, and is sold by the gatherers to local dealers, who sell it to the manufacturers of shellac or button lac, who put it through various processes until it becomes the lac of commerce.

The United States and the United Kingdom furnish the principal markets for lac, taking by far the larger part of all that is produced. Smaller quantities are exported to continental Europe. Nearly all is shipped from Calcutta.

During the last fifteen years there have been remarkable fluctuations in the amount exported. Since 1895 there had been a gradual reduction in prices, but during the past two years the product has been comparatively small, while the demand has largely increased. This increased demand is due mainly to the use of shellac in electrical works and in a minor degree for making gramophone records. This increased demand, the small production of the past two years, and the scarcity of stock have attracted speculators, which no doubt has tended to further advance prices. Another reason for the recent advance in prices is the fact that the lac dye, which formerly represented the manufacturer's profits, has been replaced by aniline dyes, and the price of the lac has been increased to make up for the losses due to this falling off in the demand for dye.

The present high prices may stimulate production and reduce the prices, or the increasing demand may cause a further advance in prices. High prices may lead to the adulteration of shellac with rosin, which has frequently been done, but can be detected by the smell.

R. F. PATTERSON, *Consul-General.*

CALCUTTA, INDIA, *May 26, 1904.*

MONEY SYSTEM OF MANCHURIA.

The following paper on money in Manchuria, prepared by Mr. Arthur Henckendorff, of the Russo-Chinese Bank at Niuchwang, was transmitted by the United States consul at that place under date of May 5, 1904:

I think it would not be possible to find a more intricate or complicated money system than that at present in vogue in Manchuria. This is owing, I should say, to the fact that they have not there a fixed recognized standard of silver which can be taken as a basis for exchange operations.

Although China's currency is on a silver basis, yet there is no standard of silver common to all their provinces.

For instance, the silver of Niuchwang has a touch of 99.2, or, in other words, 8 ounces of alloy to 992 ounces of pure silver. The touch of the silver of Liaoyang, Mukden, Kirin, and Tieling is supposed to be the same as that of Yingkau [the port of Niuchwang], but it never is, Yingkau silver usually being finer by 1 or 2 ounces in the thousand. Kwangchingtsu silver has a touch of 99, which puts it below Yingkau silver, while, on the other hand, Harbin silver has a touch of 99.8, which puts it above that of Niuchwang. When we think that the touch is only one of the items which has to be taken into consideration in the everyday exchange operations which take place between the various Manchurian towns, we can understand that the negotiating of a rate between Chinese currency is not a simple matter. This constant practice in exchange of the Chinese banker accounts, I should say, for much of his quickness of perception.

The hard coin currency in Manchuria consists of the sycee, small coin, and, of late, the ruble; yet the bulk of the merchandise bought and sold is not bought or sold against these hard effectives. All prices and rates quoted are against transfer money or mo-lu yingtzu—in other words, goods money, or huo yingtzu. This transfer or mo-lu yingtzu is a peculiar and muddled system. The arrival of the ruble and the establishment of quick communication with Manchuria, thus enabling the rapid transportation of treasure to and from Manchuria, is in large part responsible for the muddling.

The transfer money is a purely nominal currency not substantiated in any way by an effective—in other words, it is a credit. We will say, for instance, that a merchant starts business in Niuchwang and that his capital is deposited in some bank in Shanghai. The first thing he will do will be to sell his draft on Shanghai in the market at the market rate. The purchaser will transfer to the credit of the merchant, at the place where he banks, the equivalent, in transfer money, of his draft, and with this credit he can purchase his goods or do his banking. This transfer money can at any time be sold for silver or ruble effectives.

The Chinese year has four settling days or mao-kou, when all transfer money which has been issued has to be released. The method of redeeming transfer money has undergone several changes during the last few years. The first system was that transfer money should be redeemed at full value in hard silver at the end of every three months. This system was continued until about two years after the Japanese war. During this period the effective currency was sycee and copper cash, small coin not having then made its appearance in large amounts.

Tiao notes were largely issued by bankers and merchants of good standing. Silver at that time was only purchasable with cash, not, as now, with transfer money. All other exchange quotations between Yingkou and the other provinces were in transfer. At this time hard sycee was subject to a premium of from 50 cents to 1 tael per shoe of taels, or, roughly, about 2 per cent—that is to say, 53.50 hard sycee taels were equivalent to 54 or 54.50 transfer taels. On the settling day, when the holder of transfer was paid full value in sycee—that is to say, in sycee at par with transfer—he actually received about 2 per cent more than the original amount; this 2 per cent represented the interest he received on his money. By this it may be seen that transfer money increased in value as it approached the settling day, owing to the fact that it was accruing interest.

After the Japanese war the Chinese Government started to mint dollars in the various provinces; this had the effect of raising the price of silver and causing a scarcity in the silver market, as the Government was buying large quantities. This scarcity of silver made it very inconvenient to have to settle up in ready silver, as the market was often very tight, and consequently the premium on silver would go up very high, thus causing a heavy loss to issuers of transfer; so it was arranged that transfer upon falling due should not be redeemed at par in silver, but should have a premium added to it. This premium was usually slightly smaller than the premium on sycee, and represented the accrued interest. This system had the effect of somewhat diminishing the demand for hard sycee.

During the Boxer trouble the transfer issued was not settled up for a period of nine months. The next settling day it was settled up by the issuers of transfer paying $81.50 for each shoe of transfer, the shoe then being worth about $79, the difference between these amounts standing for the interest. Since then settlements have been made both by paying small coin and by paying a premium.

I mentioned a little while ago that before the Japanese war there were tiao notes and copper cash in currency. These gradually disappeared after the appearance of the small-coin dollar, so that now even in the stalls in the streets you will hardly hear the word tiao mentioned, all business being done in small coin.

Of late the ruble has been a very important factor in the Manchurian currency. The ruble was brought into circulation by the Russian railway and the troops. The Chinese took to it readily, owing to the ease with which it could be carried backward and forward, thus saving the expense of shipping specie.

The currency of Liaoyang is slightly different from that of Niuchwang. The effectives there are the small coin, sycee, copper cash, and rubles. They have there also a system very much like the transfer of Niuchwang; that is, the tieh yingtzu, or note money. This consists of tiao notes issued on demand by bankers and merchants of good standing, payable upon presentation, not in copper cash, as would be expected, but in small coin, at the rate of the day. (The present exchange is about 11 tiaos to the dollar; the tiao there is the same as the tiao here, that is, 160 cash.) The present rate is about 15 tiaos to the tael. This quotation stands good merely for transfers of the tael and tiao against goods bought or sold; if ready silver is required, an extra premium of about 1 tiao, more or less, according to the market quotation, must be paid. For instance, if a person buys 100 pieces of goods the price of which is 1 tael a piece, and the market rate is 15 tiaos to the tael, he would have to pay 1,500 tiaos for these 100 pieces of goods; but if, on the other hand, he wants to buy 100 taels of hard sycee, he will have to pay 1,600 tiaos, that is, 1,500 tiaos plus the premium of 1 tiao (or whatever the market rate may be) on each tael, thus making it 100 tiaos more.

The money system of Mukden and Tieling is practically the same as that of Liaoyang.

The system in Kwangchingtsu and Kirin is quite different again. There they have a system of transfer money very much like the system in Niuchwang. The exchange there is chiefly between tiaos and silver. The tiao there is three times the value of the Yingkau, Liaoyang, and Tieling tiao. It is valued at 480 copper cash. But in Kwangchingtsu and Kirin there is no cash to speak of, nor are many tiao notes issued, so that the tiao is more or less a nominal currency, used merely for business transfers, the actual settlements being made in sycee according to the rates quoted in the market.

The price of rubles is quoted in tiaos. The ruble has a fixed rate of 2 tiaos. The difference in rise or fall in exchange is made up by a premium on the ruble, which rises and falls as the value of the silver increases or decreases. In Tsitsikar and Harbin all business is done in hard effectives, either sycee, rubles, or small coin.

PETROLEUM IN ALGERIA.

(*From United States Consul Kidder, Algiers, Algeria.*)

That petroleum exists in Algeria has long been a well-established fact. Efforts have been made from time to time, since the French occupation of the territory, to develop wells; but until quite recently such efforts have never given satisfactory results. According to Algerian newspapers, the principal obstacle in the way of such enterprises has heretofore been the tremendous difficulty in obtaining concessions to sink wells. Within the last two years, however, a largely increased interest has been awakened in the mineral possibilities of Algeria in anticipation of a more liberal policy, which has already been inaugurated by the new and progressive governor-general of the colony. Interest has been revived in the almost forgotten oil wells and it seems as if at last a realization of deferred hopes were at hand.

Two producing wells yield between 80 and 100 barrels daily, but nothing like regular pumping has been undertaken, as the present company occupies itself in putting down other wells, the reservoirs being all full, before completing the erection of their refinery at St. Aimé, department of Oran.

The enormous advantages possessed by the owners of the concession covering these two wells are, first, nonliability to duty either in Algeria or in France (this alone is equivalent to a net profit of 90 francs [$17.37] a ton on the crude oil); second, the position of their property, a few miles from the principal Algerian railroad and close to the seaboard, in the center of a rapidly growing population.

The oil is heavily charged with paraffin and vaseline, containing as much as 10 to 12 per cent of these constituents.

Practically all the petroleum now used in France, as well as in Algeria, comes from the United States.

Daniel S. Kidder, *Consul.*

Algiers, Algeria, *June 6, 1904.*

MAIL AUTOMOBILES IN DENMARK.

(*From United States Consul Frazier, Copenhagen, Denmark.*)

The automobile commission recently sent abroad by the Danish Government on a tour of inspection with a view to reporting as to the adaptability of the automobile for short-route mail service has just returned to Copenhagen. The commission is composed of officials from the post-office and other governmental departments and engineers appointed by the Government. The following comments upon their work, which appeared in a recent issue of the Dannebrog, a leading Copenhagen daily, may be of interest to automobile manufacturers:

> The members of the commission visited a large number of places in north and central Germany, France, and England. The object of the commission was to investigate to what degree the automobile might be made a substitute for secondary railways.
>
> From what we have learned it was evident to the commission that the automobile has given the best of service in places where the modern machine has been employed in the public service. The automobile reaches its destination on time, and has advantages over the railway train, which often in foreign countries, especially in England, fails to arrive on schedule time. It is, however, only on the shorter routes that the automobile has as yet been introduced into the postal service.
>
> The greater number of foreign automobile manufacturers have hitherto paid little attention to the construction of automobiles for practical purposes. The few manufacturers who have, however, given special attention to this subject have been successful, as is evidenced by the cordial reception which the public has given the automobile omnibus, for instance.
>
> If speed were not a consideration, it was evident to the commission that it would not be advisable to replace the present stage service with automobiles. On the other hand, if quicker delivery is the main object, the automobile will best meet the requirement.
>
> It is the intention here in Denmark, possibly, to replace the day coaches (stage service) by automobiles. It will be required that the automobiles have a speed of about 12 miles an hour on the average, which is about the speed maintained in the public mail service in foreign countries.

The Danish Government has recently entered into a ten-year contract with a local company for the delivery of mails over the stage routes in Denmark proper. This company proposes, with the consent of the post-office department and under its supervision, to install automobile coaches in place of horse-drawn vehicles. This is an important branch of the postal service, since there are so many small islands without railways. The passenger and freight traffic make many of the routes quite profitable.

Four automobile omnibuses of French and, probably, German and Scotch manufacture will be given a three months' trial, beginning with September of this year. It is confidently expected that the experiment will be successful, and if so, that there will be a large demand during the next two or three years for automobiles of the omnibus type.

The following are the rather severe conditions to be met before any particular make of automobile will be purchased:

The body of the car (exclusive of machinery) must be approved by the commission. The machine must be run 2,000 kilometers (1,243 miles), after coming from the factory, at the maker's expense, an inspector appointed by the commission being on board all the distance. The car is then to be taken apart and each part carefully inspected, cleaned, and readjusted, and the car is to be run for three days at the expense of the maker. The car will then be forwarded to Copenhagen and run for three months by a driver furnished by the maker, who shall be accompanied by an agent of the commission. The commission will pay the salary of the driver, will furnish gasoline and oil, and provide housing for the car. The commission will pay one-third the price of the car on ordering it, one-third on its delivery in Copenhagen, and one-third at the end of the three months' trial, if it is found satisfactory. The trials are to be conducted under the supervision of the post-office department, and from their decision there is no appeal.

The car must accommodate sixteen persons, including the driver, and be capable of carrying 1 ton of freight besides, at an average speed of 12 miles an hour on a 9-percent grade.

The commission has practically determined to try the "Schneider-Creuzot" French omnibus, a car with a quadruple gasoline cylinder of 24 horsepower, costing $3,600, and accommodating twelve passengers inside and three on the platform. This car is at present most in favor with the commission.

The commission is desirous of interesting American manufacturers of omnibus automobiles. Should American manufacturers desire to be placed in direct connection with the gentlemen interested here, they may transmit letters to this office, which will be promptly delivered.

RAYMOND R. FRAZIER, *Consul.*

COPENHAGEN, DENMARK, *June 22, 1904.*

CIVIL SERVICE OF NORWAY.

(From United States Consul-General Bordewich, Christiania, Norway.)

The system of civil service prevailing in Norway differs radically from the American system. The employees may be divided into three classes—the professional, the departmental, and the diplomatic and consular.

PROFESSIONAL CLASS.

Under this heading come ministers of the State church, the judiciary, district and State hospital physicians, professors at the university, and some of the teachers of the high schools. Everybody in this class is a graduate of the Norwegian University. Before appointment in the service of the State application must be sent through the department having charge of the office applied for. Out of the total number of applicants three are selected by this department, and the final appointment is made at a cabinet meeting. All such appointments have to be approved and signed by the King. The applicants are subjected to no special examination, their appointment being based solely on their final examination and graduating certificate from the university.

Promotion in the service is based on previous experience and personal ability.

All professional State positions, as well as all other public positions, State as well as municipal, are advertised when vacant. Six weeks' time is generally given aspirants in which to send in their applications. If any officeholder wants to resign his place he has to give notice to that effect three months in advance.

If a lawyer or physician wants to become a private practitioner he must obtain a license to do so from the department of justice and police. Should he prove himself unworthy of the privilege thus given him the department can take the license away for such a period as it deems proper.

DEPARTMENTAL SERVICE.

Persons entering the customs, post-office, and other departmental service must have had a school training justifying their appointment in the grade they seek to enter. Previous practical training is the principal consideration in promotions. The department of finance makes all minor appointments independently, while the higher offices are filled in the same manner as in the professional class.

DIPLOMATIC AND CONSULAR SERVICE.

Inasmuch as Norway and Sweden have diplomatic and consular officers in common, this branch of the civil service stands somewhat by itself. When a vacancy occurs it is duly advertised in both countries, and any citizen of either country may send in his application. These applications are sent to the Government of the respective country, and a selection is then made in a combined Swedish-Norwegian cabinet meeting.

Previous training is the main point considered when appointment or promotion is made. For years none but people with experience in the service have been appointed to be chief officer at a legation or at a consulate of importance. The opinions of the boards of trade are always heard before any important consular appointment is made. In many other branches of the civil service the opinion of local committees and societies is asked before appointment is made. While such recommendations carry considerable weight, they are frequently set aside when not agreeing with the judgment of the department.

APPOINTMENTS AND REMOVALS.

To all Government as well as municipal positions the officers are appointed permanently and can not be removed except on account of serious misbehavior in the performance of their official duties. When for special reasons the appointment is only temporary, the fact is always stated beforehand.

Employees may be transferred from one position or department to another if they desire the change and if their superiors recommend it.

EXAMINATIONS.

All examinations at the different high schools and academies and at the university are both oral and written. Admission to the different examinations is governed by previous training, either in school or under private instructors. In many instances a graduation certificate from a lower school has to be furnished before admittance to a higher one is granted. Physical tests are required for men on the police force and in the fire departments, and tests of eyesight for pilots. Anyone failing to pass an examination is permitted to be reexamined at the next one held. A temporary vacancy is filled in the same manner as if it were permanent, the only difference being that it is always classed as temporary when advertised. Examinations in all schools and at the university are held once a year. The proportion failing is very small, hardly 1 per cent.

SALARIES.

The salaries differ much in the different grades and branches, but the road to advancement to the highest position and salary is open to all. There are no specially favored classes; ability and special qualifications are supposed to be the only reasons for consideration. If an employee leaves or is dropped from the service he is frequently reemployed on application.

Women are employed mainly as subordinates in offices. Their compensations are generally about 25 per cent less than those of men.

Yearly salaries paid to some officeholders in Norway are as follows:

The two ministers of state, $5,360 each; the other cabinet officers $3,216 each. Both the minister at Christiania and the one at Stockholm have free residence and liberal allowance for entertainment and representation expenses.

The judges of the supreme court receive from $1,930 to $2,680. The salaries in the different departments range between $536 and $1,876. Ordinary clerks receive about $321 at the beginning, with increase every three years if not promoted.

The bishop at Christiania receives $3,752 and free residence provided by the State. The smallest income of any minister of the State church is $643. The Evangelical Lutheran is the established religion of the State.

In the diplomatic service the salaries of the chief diplomatic officers at the following places are: Paris, St. Petersburg, and London, $16,080 each; Berlin, $12,864; Copenhagen, $9,648; Madrid, Lisbon, and Vienna, $8,756; Rome, $7,772, and Washington, $6,432.

Some of the salaries paid the officers in the consular service are: Antwerp, $3,886; Copenhagen, $3,216; Havre, $3,886; Genoa, $3,216; London, $6,432; Liverpool, $2,412; Leith, $4,288; Hamburg, $4,020; Washington, $4,288; New York, $8,040.

HOURS OF LABOR AND LEAVES OF ABSENCE.

In State and municipal offices the hours of labor vary from four to six daily. Besides Sundays, there are about ten holidays during the year. Full pay is allowed to employees absent on account of sickness for any period not exceeding one year in duration. All Government employees are entitled to one month's vacation every summer, and their full salary is allowed them while away. In municipal offices the vacations last from three to four weeks. In addition, Government and municipal employees are often given permission to go abroad for studies of special subjects, receiving full pay while absent, even if their stay abroad should be prolonged a whole year.

DISMISSAL FROM SERVICE.

No employee may be discharged unless found guilty of serious misbehavior, and even then the matter must be laid before the proper department for action.

POLITICS AND CIVIL SERVICE.

Government and municipal employees take no special interest in politics, unless personally so inclined, for the reason that a change of administration has no effect on their positions or promotions. Only the members of the Storthing (Congress), who are elected by the people, and the cabinet officers, who are chosen by the king, are affected by political changes.

A Government or municipal employee may join any law-abiding union if he so desires.

CIVIL PENSIONS.

All persons permanently employed by the State or municipalities are entitled to pensions varying from one-half to one-fourth of their former salaries when, on account of old age or sickness, they are removed from the service. The age limit differs much in the different branches, and is generally regulated, both in appointments and in retirements, by the incumbent's ability to perform his duties. A retired employee drawing a civil pension may engage in any business he sees fit, and his income from such business has no effect on the amount of pension.

MISCELLANEOUS.

Anyone seeking appointment must, by his graduation papers, demonstrate his fitness. In cases of promotion, practical experience and ability shown are duly considered.

There are no special schools for training persons for the civil service. The State, however, frequently furnishes monetary aid to employees for traveling abroad in order to gain knowledge on special subjects which may be of interest to the service.

HENRY BORDEWICH,
Consul-General.

CHRISTIANIA, NORWAY, *June 20, 1904.*

BEEF RINGS IN CANADA.

(From United States Consul Small, Collingwood, Canada.)

The accompanying newspaper clipping from the Collingwood Enterprise and Messenger of this date gives interesting information in regard to the beef rings which are in successful operation in many of the farming communities of Canada. As is stated therein, the great and increasing popularity of these beef rings is due to the fact that the farmer members thereof are enabled to obtain for their families fresh meat during the summer months at practically cost price.

These rings are not, as the name might indicate, "trusts" for the control of the production and sale of beef, but are groups of farmers who cooperate to supply their tables with fresh meat during the summer. The ring is usually composed of sixteen, twenty, or twenty-four members, although sometimes as many as forty are enrolled. Each member agrees to supply one beef animal during the summer, and in order to give plenty of time for preparation the members draw lots the previous winter to determine the order in which they shall contribute animals. After drawing, members may exchange numbers if they find it mutually advantageous. Two small families may combine for one share.

Wherever it has been tried this system has given excellent results, as is shown by the fact that it is difficult to gain admission to the rings, as there is no inclination to drop out. The farmers' wives and daughters are particularly well pleased, as the abundance of fresh meat at their command simplifies the question of providing suitable meals. Then the farmers get their beef at the actual cost, paying no more for the best cuts than they would for the cheapest they could buy at retail. Under the operation of the beef ring each family gets its portion within a few hours after killing, so that there is little difficulty in keeping the meat fresh for nearly a week. The usual method is to use the steak and roast first, and put the boiling piece into brine or a refrigerator until needed.

William Small, *Consul.*

Collingwood, Canada, *June 30, 1904.*

PROGRESS OF CANADA.

(From United States Consul Denison, Woodstock, New Brunswick.)

The last number of the report of the Canadian department of trade and commerce furnishes the following interesting figures in regard to Canada in 1871 and 1901:

Statistics concerning Canada in 1871 and 1901.

Subject.	1871	1901
Land occupied ... acres	36,046,410	63,422,338
Land under cultivation ... do	17,336,288	30,166,038
Currency and banking:		
Statistics of chartered banks—		
Paid-up capital ... dollars	36,415,210	67,095,718
Assets ... do	121,014,395	528,304,110
Liabilities ... do	77,486,706	417,320,761
Circulation—		
Notes issued by chartered banks ... do	18,339,893	49,119,479
Notes issued by the Dominion ... do	7,367,340	276,671,452
Deposits—		
In chartered banks ... do	57,787,922	315,775,426
In post-office savings bank ... do	2,497,260	39,950,813
In other Government banks ... do	2,072,087	16,098,146
In special banks ... do	5,766,712	19,125,097
Total deposits ... do	68,123,931	390,949,482
Education:		
Public schools ... number	10,549	19,262
Pupils enrolled ... do	773,341	1,105,714
Teachers ... do	12,813	29,487
Expenditures ... dollars	4,650,206	11,871,436
Fire insurance:		
Amount in force ... do	228,453,784	1,038,687,619
Premiums paid ... do	2,321,716	9,650,348
Life insurance:		
Amount in force ... do	45,825,935	463,769,034
Premiums received ... do	1,852,974	15,189,854
Mineral productions ... do	6,043,868	66,339,158
Steam railways:		
Length of lines operated ... miles	2,695	18,140
Gross earnings ... dollars	14,485,648	72,898,749
Customs collected ... do	11,843,656	29,106,980
Excise revenue ... do	4,295,945	10,318,266
Commerce in merchandise:		
Total imports ... do	93,359,877	186,878,231
Total exports ... do	65,034,600	194,509,143

Frank C. Denison, *Consul.*

Woodstock, New Brunswick, *June 16, 1904.*

MINERAL PRODUCTION OF CANADA IN 1903.

From the Board of Trade Journal, of London, England, April 7, 1904, the following preliminary summary of the mineral production of Canada in 1903, together with corresponding statistics for 1902, is reproduced:

Mineral production of Canada in 1902 and 1903.

Product.	1902	1903
Metallic:		
Copper	$4,553,695	$5,728,261
Gold, Yukon	14,500,000	12,250,000
Gold, all other	6,241,245	6,584,490
Iron ore (exports)	1,065,019	922,571
Pig iron from Canadian ore	1,043,011	707,838
Lead	935,870	762,660
Nickel	5,025,903	5,002,204
Silver	2,280,957	1,700,779
Zinc	8,068	48,600
Total value	35,653,768	33,707,403
Nonmetallic:		
Actinolite	4,400	3,108
Arsenic	48,000	15,420
Asbestos (exports)	1,191,338	891,033
Asbestic	12,114	13,819
Chromite	12,400	33,830
Coal	15,538,611	15,957,946
Coke	1,538,930	1,663,725
Corundum	84,468	....
Feldspar	11,375	18,066
Fire clay	4,283	2,505
Graphite	28,300	23,745
Grindstones	48,400	48,302
Gypsum	356,317	384,259
Limestone for flux	218,809	259,244
Manganese ore	2,774	1,889
Mica	400,000	159,473
Mineral pigments—		
Baryta	3,957	3,931
Ochers	30,495	32,440
Mineral water	100,000	100,000
Molding sand	27,651	7,256
Natural gas	195,992	168,900
Peat	1,663	3,300
Petroleum	934,740	922,672
Phosphate	4,953	8,214
Nonmetallic—Cont'd.		
Pyrites	138,939	126,133
Salt	288,581	334,088
Talc	1,804	2,064
Tripolite	15,800	16,700
Total value nonmetallic	21,245,094	21,202,062
Structural materials and clay products:		
Cement, natural rock	91,870	75,655
Cement, Portland	1,028,618	1,090,842
Granite	170,000	150,000
Pottery	200,000	200,000
Sands and gravels (exports)	119,120	124,006
Sewer pipe	294,465	317,970
Slate	19,200	22,040
Terra cotta, pressed brick, etc	348,597	386,532
Building material, including bricks, building stone, lime, etc	5,500,000	5,650,000
Total structural materials and clay products	7,771,870	8,017,045
All other nonmetallic	21,245,094	21,202,062
Total nonmetallic	29,016,964	29,219,107
Total metallic	35,653,768	33,707,403
Estimated value of mineral products not returned	300,000	300,000
Total	64,970,732	63,226,510

The main features presented by the mineral industry of Canada as a whole consist in the decrease in the grand total of production of a little over 1 per cent, in comparison with that of 1902; in the falling off of the gold production and of the output of pig iron, silver, lead, and nickel, and in the increased production of copper and zinc.

As usual, gold, coal, and coke constitute Canada's most valuable mineral assets, and account for 57.66 per cent of the value of the whole mineral output of the country.

According to customs returns exports of nickel in 1903 were as follows: to Great Britain, 1,335,677 pounds; to the United States, 11,363,470 pounds; to other countries, 80 pounds.

CANADIAN TARIFF CHANGES.

The following memorandum, issued from the office of the commissioner of customs, Ottawa, was transmitted by United States Consul-General Holloway, at Halifax, Nova Scotia, under date of June 17:

FURTHER RE TARIFF CHANGES, 1904.

DEPARTMENT OF CUSTOMS, CANADA,
Ottawa, June 28, 1904.

To collectors of customs:

Referring to memorandum No. 1284 B, you are advised that the tariff resolutions of June 7, 1904, have been amended on this date and are now in force as follows, entries to be adjusted accordingly:

Resolutions respecting customs duties, to be proposed in committee of ways and means by Mr. Fielding, minister of finance, as submitted June 7, 1904, and amended June 28, 1904.

1. *Resolved,* That it is expedient to amend "The customs tariff, 1897," to the following effect:

That the following provision be substituted for subsection (*f*) of section 1 of the said act:

(*f*) The expression "gauge," when applied to metal sheets or plates or to wire, means the thickness as determined by the "imperial standard gauge."

2. *Resolved,* That whenever it shall appear to the satisfaction of the minister of customs or of any officer of customs authorized to collect customs duties that the export price or the actual selling price to the importer in Canada of any imported dutiable article, of a class or kind made or produced in Canada, is less than the fair market value thereof (as determined according to the basis of value for duty provided in the customs act in respect of imported goods subject to an ad valorem duty), such article shall, in addition to the duty otherwise established, be subject to a special duty of customs equal to the difference between such fair market value and said selling price: *Provided, however,* That the special customs duty on any article shall not exceed one-half of the customs duty otherwise established in respect of the article, except in regard to the articles mentioned in items 224, 226, 228, and 231 of schedule A, the special duty of customs on which shall not exceed 15 per cent ad valorem, nor more than the difference between the selling price and the fair market value of the article as aforesaid.

The expression "export price" or "selling price" herein shall be held to mean and include the exporter's price for the goods, exclusive of all charges thereon after their shipment from the place whence exported directly to Canada.

The foregoing provisions respecting a special duty of customs shall apply to imported round rolled wire rods not over three-eighths of an inch in diameter, notwithstanding that such rods are on the customs free list: *Provided, however,* That the special duty of customs on such wire rods shall not exceed 15 per cent ad valorem.

If at any time it shall appear to the satisfaction of the governor in council, on a report from the minister of customs, that the payment of the special duty herein provided for is being evaded by the shipment of goods on consignment without sale prior to such shipment, or otherwise, the governor in council may in any case or class of cases authorize such action as is deemed necessary to collect on such goods or any of them the same special duty as if the goods had been sold to an importer in Canada prior to their shipment to Canada.

If the full amount of any special duty of customs be not paid on goods imported, the customs entry thereof shall be amended and the deficiency paid upon the demand of the collector of customs.

The minister of customs may make such regulations as are deemed necessary for carrying out the provisions of the foregoing sections and for the enforcement thereof.

Such regulations may also provide for the temporary exemption from special duty of any article or class of articles, when it is established to the satisfaction of the minister of customs that such articles are not made in Canada in substantial quantities and offered for sale to all purchasers on equal terms.

The special duty aforementioned shall not apply to goods of a class subject to excise duty in Canada.

3. *Resolved,* That in schedule A the words "common and colorless window glass" in item 201, and the words "pails and tubs of wood" in item 330 shall be omitted, and that items 22, 151, 170, 171, 172, 173, 175, 178, and 203 of schedule A shall be repealed and the following provisions added to schedule A, viz:

After item 7 (*a*): *Provided*, That bottles, flasks, and packages of gin, rum, whisky, and brandy of all kinds, and imitations thereof, shall be held to contain the following quantities (subject to the provisions for addition or deduction in respect to the degree of strength), viz:

Bottles, flasks, and packages containing not more than three-fourths of a gallon per dozen, as three-fourths of a gallon per dozen.

Bottles, flasks, and packages containing more than three-fourths of a gallon, but not more than 1 gallon per dozen, as 1 gallon per dozen.

Bottles, flasks, and packages containing more than 1 gallon, but not more than 1½ gallons per dozen, as 1½ gallons per dozen.

Bottles, flasks, and packages containing more than 1½ gallons, but not more than 2 gallons per dozen, as 2 gallons per dozen.

Bottles, flasks, and packages containing more than 2 gallons, but not more than 2½ gallons per dozen, as 2½ gallons per dozen.

Bottles, flasks, and packages containing more than 2½ gallons, but not more than 3 gallons per dozen, as 3 gallons per dozen.

Bottles, flasks, and packages containing more than 3 gallons, but not more than 3½ gallons per dozen, as 3½ gallons per dozen.

22. Paraffin wax candles, 25 per cent ad valorem.

151. Paraffin wax, 25 per cent ad valorem.

170. Illuminating oils composed wholly or in part of the products of petroleum, coal, shale, or lignite, costing more than 30 cents per gallon, 20 per cent ad valorem.

171. Lubricating oils, composed wholly or in part of petroleum, costing less than 25 cents per gallon, 2½ cents per gallon.

172. Crude petroleum, gas oils (other than naphtha, benzine, and gasoline), lighter than 0.8235 but not less than 0.775 specific gravity at 60° temperature, 1½ cents per gallon.

173. Oils, coal and kerosene, distilled, purified or refined, naphtha and petroleum, and products of petroleum, not elsewhere specified, 2½ cents per gallon.

175. Lubricating oils, not elsewhere specified, and axle grease, 20 per cent ad valorem.

178. Vaseline, and all similar preparations of petroleum for toilet, medicinal, or other purposes, 25 per cent ad valorem.

201 (*a*). Common and colorless window glass, 15 per cent ad valorem.

203. Plate glass, not beveled, in sheets or panes not exceeding 7 square feet each, n. o. p., 10 per cent ad valorem.

203 (*a*). Plate glass, not beveled, in sheets or panes exceeding 7 square feet each, and not exceeding 25 square feet each, n. o. p., 25 per cent ad valorem.

After item 323. *Provided*, That for duty purposes the minimum value of an open buggy shall be $40, and the minimum value of a covered buggy shall be $50.

368 (*a*). Silk fabrics when imported by manufacturers of neckties for use exclusively in the manufacture of neckties in their own factories, under regulations to be made by the minister of customs, 10 per cent ad valorem.

447 (*a*). Artificial teeth, until April 1, 1905, 10 per cent ad valorem.

Notwithstanding anything contained in schedule D, the maximum duty on the undermentioned articles when imported under the British preferential tariff shall be as follows:

185 (*a*). Tableware of china, porcelain, or other white clay, 15 per cent ad valorem.

201 (*b*). Common and colorless window glass, 7½ per cent ad valorem.

Notwithstanding anything contained in schedule D, the minimum duty on the undermentioned articles when imported under the British preferential tariff shall be as follows:

394 (*a*). Manufactures as described in item 394 of schedule A (excepting blankets, flannels, bed comforters, and counterpanes), composed wholly or in part of wool, worsted, the hair of the alpaca, goat, or other like animal, 30 per cent ad valorem.

431 (*a*). Twine and cordage of all kinds, not elsewhere specified, 20 per cent ad valorem.

4. *Resolved*, That in schedule B item 462 shall be repealed, and all the words in item 608 after the words "United Kingdom," in the third line, shall be struck out, and that the following articles shall be added to the free list (schedule B):

462. Philosophical and scientific apparatus, utensils, instruments, and preparations, including boxes and bottles containing the same, of a class or kind not manufactured in Canada, when specially imported in good faith for the use and by order of any society or institution incorporated or established solely for religious, philosophical, educational, scientific, or literary purposes, or for the encouragement of the fine arts, or for the use or by order of any college, academy, school, or seminary of learning in Canada, and not for sale, subject to such regulations as the minister of customs shall prescribe.

555 (*a*). Machinery of every kind and structural iron and steel when imported, under regulations to be made by the minister of customs, for use in the construction and equipment of factories for the manufacture of sugar from beet root, until the 1st day of April, 1905.

555 (*c*). Machinery and appliances of a kind not made in Canada for use exclusively in alluvial gold mining, until July 1, 1905.

Artificial teeth, after March 31, 1905.

Crude petroleum, fuel and gas oils, 0.8235 specific gravity or heavier, at 60° temperature.

Ferment cultures, to be used in butter making.

Glass cut to size for manufacture of dry plates for photographic purposes, when imported by the manufacturers of such dry plates for use exclusively in the manufacture thereof in their own factories.

Goats for the improvement of stock, under such regulations as may be made by the minister of customs;

Hydro-fluo-silicic acid;

Machinery, of a class or kind not made in Canada, for the manufacture of linen;

Machinery, of a class or kind not made in Canada, for the manufacture of brass goods such as are mentioned in item 492, schedule B;

Molasses, the produce of any British country entitled to the benefits of the British preferential tariff, when produced from sugar cane and imported direct by vessel from the country of production in the original package in which it was placed at the point of production and not afterward subjected to any process of treating or mixing; the package also to be free: *Provided, however*, That this shall not apply to molasses to be used for the purpose of distillation;

Plain basic photographic paper, baryta coated, when imported by manufacturers of sensitized paper for use exclusively in manufacturing albumenized or sensitized photographic paper in their own factories;

Printing presses, rotary, of a class or kind not made in Canada;

Quassia juice;

Well-drilling machinery and apparatus, of a class or kind not made in Canada, for drilling for water and oil, not to include motive power;

Whale-oil soap.

5. *Resolved*, That schedule C (prohibited goods) shall be amended by adding the following:

642. Stallions and mares of less value than $50 each.

6. *Resolved*, That the foregoing provisions shall be held to have come into force on the 8th day of June, 1904, and to have applied to all goods imported or taken out of warehouse for consumption on and after that day, and to have also applied to goods previously imported for which no entry for consumption was made before that day, except as otherwise provided in the foregoing resolutions: *Provided*, That all goods actually purchased on or before the 7th day of June, 1904, at any place out of Canada, for importation into Canada, on evidence to the satisfaction of the minister of customs of the purchase having been so made, and all goods in warehouse in Canada on such day, may be entered for duty at the rate of duty in force immediately before the said day (without special duty), notwithstanding any increase in customs duties under the said resolutions; but this proviso shall cease to have force and effect after the 31st day of August in the present year.

FURTHER INSTRUCTIONS.

Particular attention is directed to the provisions in the resolutions exempting goods from increased duties and special duties up to the end of August, 1904, provided the goods have been actually purchased on or before June 7, 1904.

Before such exemption is allowed, proof as to such actual purchase is to be established to the satisfaction of the collector, in the same manner as was followed in the case of the temporary exemption from surtax in 1903.

In order that goods may be exempt from increased duties and special duties otherwise applicable, it is necessary that the goods shall have been actually purchased prior to June 8, 1904, and imported into Canada on or before August 31, 1904, and that entry for duty be made after such importation in due course, without delay, at the port of unlading or port of destination.

BOTTLED LIQUORS.

Cased liquors warehoused prior to June 8, 1904, may be ex-warehoused until December 31, 1904 (unless otherwise ordered), according to the quantity as originally warehoused.

Spirituous liquors in half flasks imported prior to June 29, 1904, may be entered for duty (prior to December 31, 1904), according to actual measurement.

Pending further instructions, small flasks, vials, or bottles, imported in cases containing one sample only of each brand, when to be used as samples and not for sale, may be allowed entry on payment of duty on the actual quantity imported.

SPECIAL CUSTOMS DUTY.

In making customs entries the special duty may be shown by itself in the "Net duty" column of the entry on the line below the article subject to special duty or on the line below continuous numbers of articles subject to special duty.

John McDougald,
Commissioner of Customs.

CHINA'S FOREIGN TRADE.

(Condensed from English trade reports in Nachrichten für Handel und Industrie of June 4, 1904.)

According to Chinese customs returns the Empire's trade in 1903, imports and exports, amounted to $346,298,624. The trade of 1894 amounted to $185,732,480. Each year since 1894, except 1900–1901, shows a steady gain. In those years there was a considerable falling off. The increase in 1902 and 1903 only partly made up for this loss. There is every reason to hope and look for better times just as soon as the country settles down to a healthy normal development of its vast resources.

The imports of 1903—about $208,640,000—were 4 per cent larger than those of 1902. A small increase is evident in the opium and cotton-goods imports. Shirtings and sheetings show a falling off from 19,015,300 pieces in 1902 to 13,835,506 pieces in 1903. A small increase is to be noted in prints. The importations of petroleum, 84,998,335 gallons, show a falling off of 5½ per cent from that of 1902; but the value, $10,240,000, was an increase of 36 per cent over that paid for the 1902 importations. The decrease in the quantities imported are borne by Borneo and America. Russian and Sumatran oils show an increase of 35 per cent and 18 per cent, respectively.

EXPORTS OF ARGENTINA FOR THE FIRST THREE MONTHS OF 1904.

The Buenos Ayres Handels-Zeitung of May 13 publishes the following table, showing the values of exports for the first three months of a number of years:

Exports of Argentina, first quarter of 1894 to 1904.

1894	$31,382,336
1899	46,869,241
1903	66,912,750
1904	70,666,950

Products.	First three months—	
	1903	1904
Animal products	$38,040,300	$33,244,250
Farm products	27,087,550	36,119,950
Forest products	955,350	743,050
Mines	96,500	125,450
Other products	733,050	354,200
Total	66,912,750	70,666,950

The exports of wool during the six months ended March 31, 1903 and 1904, were 141,162 tons and 120,516 tons (of 2,240 pounds), respectively.

These figures, indicating a phenomenally successful development of Argentina, taken in connection with the reports of Vice-Consul Handley and others, point out a great field for American effort.

NO WEALTH ON THE AMAZON.

(*From United States Consul Aymé, Para, Brazil.*)

I have made a trip up the Amazon River to Manaos for the purpose of inspecting the agency at that point and of gaining some information as to the commercial and other conditions obtaining on the river and in its immediate neighborhood.

The reports of my immediate predecessor in office were of such a nature as to inspire the belief that there existed many opportunities for the investment, by Americans, of moderate amounts of capital in various lines, such as coal mining, cutting of hard woods, cattle raising, and general agriculture. Some of these reports I have read, but they are most forcibly brought to my attention by the great number of letters received at this consulate asking for further information and referring to some report of my predecessor as the occasion for their interest in the matter. Many of them are young men with a capital of from $500 to $2,000. I despair of finding language strong enough to express the utter and absolute hopelessness of success that awaits any of them unhappy enough to attempt to make even a bare living on the banks of the mighty Amazon. I do not say that the acquisition of a fortune or a competence is difficult, doubtful, or impossible; I say that such a miserable existence as would disgust a Digger Indian would be hardly obtainable by one man in ten thousand of such as are thinking of coming here.

The Amazon River may be divided into three parts: The lower Amazon, extending as far as Manaos, where the Rio Negro flows into it, a distance of about 900 miles; the upper Amazon, from Manaos to Iquitos, near the Peruvian boundary, a distance of perhaps 1,800 miles, and the Peruvian Amazon region, with navigable rivers for a distance of 1,600 miles and more. This amazing river system, which empties into the Atlantic, through a series of mouths 180 miles wide, more than twice as much water as the Mississippi carries in flood, and which stains the ocean for a distance of 600 miles, lies in a broad, flat valley, elevated but a few inches above flood level, with an inclination of only about 1 foot in 5 miles. This valley, almost always flooded, is covered with vast forests, in which at sparse intervals are found occasional heveas and hard-wood trees of some value. This valley, at least 30 miles wide, has a swift, very deep river running through it, with a breadth of from 2 to 6 miles. The thick forest growing up out of the water forms the so-called "banks." Here and there are patches of slightly elevated ground on which Indian huts are erected. To make this huge river and to sustain the growth of the vast matted forest, rain—much rain—is needed, and it is a fact that more rain falls in this region than in any other of like extent in the world. As one sails or steams up the great river there are seen occasional patches of green, level vegetation, for all the world like wondrously fertile meadows, and it is not difficult to imagine great flocks of cattle feeding on them, until the sight of a capybara or tapir more than knee-deep in the green ooze informs one of the real consistency of that tempting and solid-looking meadow; it is little better than a swamp. I do not say that there is absolutely no grazing land on the banks of the Amazon—I do say that there is very little, and that that little is all held by private owners.

There are in the whole vast length of the Amazon two real markets—Manaos and Para. There are a few straggling villages and occasional Indian huts. The inhabitants of huts and villages are not possible consumers of anything the colonist might produce.

I asked one man in Manaos, a man who knew the United States well, who is thoroughly and practically acquainted with the possibilities of cattle raising in northern Brazil, whether he thought young men with small capital could do anything in cattle raising on the Amazon anywhere. He replied that it would be criminal to permit any young man with money and energy to come and find the grave of both on the banks of the Amazon.

In these extraordinary forests there are found some of the most beautiful and valuable woods in the world, as well as fruits, nuts, oils, balsams, and gums, but—and this BUT is unsurmountable—they are found as rarely as diamonds in the gravel or gold nuggets in the streams. There is a false impression existing that rubber trees, ebony, rosewood, and all the rest are found in great groves or clusters, like our pine or oak forests. The fact is that these trees are solitary. When two of them are only a quarter of a mile apart (and remember that the quarter-mile is not open space, but thick-matted, almost impenetrable swamp forest) they are considered close together; if they are a mile apart they are not considered to be very far distant from each other. Nor does this huge forest produce any great quantity of food for human beings. The staple articles of food for the dweller on the Amazon is dried pirarucu, a huge, fat river fish, and "farinha," the starch of the manioc root.

Grant that the colonist could get land, grant that he could raise vegetables, grant that he could raise cattle, grant that he could find, cut, and haul to the river-brink valuable cabinet woods—and I assert that he can do none of these things—grant that he could do them all; grant that he spoke Portuguese fluently, grant that he had become instantly acclimated; grant all this and more, he would then be confronted with the problem of where to find a market for his products. Let him believe that the men who have lived here so long would supply such as are wanted in the world's markets could it be done; but the expense of taking them to such markets would be many times the value of the products themselves. A market here? No. The markets of Manaos and Para are very small and are fully supplied by native capital.

I inclose a letter written by an American citizen at my request. I can furnish his name to the Department or to any proper person, if necessary, but he asks, for evident reasons, that I withhold it from publication. This gentleman came to Brazil three years ago from another Spanish-American country, where he had resided for many years. He is therefore fully informed concerning the manners and ways of life in the Tropics; he speaks the language perfectly; he has much experience in tropical products; he is a mechanical engineer; he brought with him a wife, children, health, knowledge, experience, energy, pluck, perseverance, and $20,000 in good American gold. He has had three years of the hardest work he has ever known, and he is now going back under our own flag with his wife, his children, his health, pluck, energy, and perseverance; with increased knowledge and experience; with three years greater age; and with $10,000 less money. His story is not a story of misfortune, of accident, of strange or unusual conditions. It is the same story that every such man has had to tell who did not find his grave in the mighty, implacable forest. Graves of young and energetic white men are far too numerous in the green valley of the Amazon. I commend this letter to the careful perusal of every man before whose dazzled eyes hangs a glowing tropical vision of a mighty river flowing through forests of rosewood and ebony, perfumed with rare orchids, where luscious fruits are to be plucked from every tree and jeweled hummingbirds are hovering over fragrant flowers, and money rolls in a golden tide like that of the huge stream itself. Let him read this letter and, later, let him learn something about poor food, ever-present possibility of fevers, stinging flies, gnats, and mosquitoes, ants that will destroy and cut down a whole plantation in one night (*Œcodoma cephalotes*), or others that not only can drive him from his house with their terrific bites and stings, but actually have rendered a whole town on this same Amazon uninhabitable (*Myrmica sævissima*), and the almost equally redoubtable *Ecitons*. Let him consider his chance in a country of whose language, habits, and customs he knows nothing, and let him look around in our own broad land. If he can not make a success there, I say most emphatically he will make a most dismal failure here. If he can make a success there, let him be satisfied, for he will still make a failure here.

It may be that there are places in Brazil where colonists might do well. Perhaps, but I do not know of any such places. Perhaps there are men who have succeeded here under the conditions of those to whom this report is largely directed. Perhaps, but I can not learn the names or whereabouts of such men. But with stories of discouragement and despair, stories of failure and disaster, I am all too familiar. I shall not willingly add one single victim more to the long list of disappointed seekers after the tropical El Dorado.

I leave the more purely commercial results of my trip to another report.

LOUIS H. AYMÉ, *Consul.*

PARA, BRAZIL, *May 11, 1904.*

LETTER TO CONSUL AYMÉ CONCERNING BUSINESS OPPORTUNITIES ON THE AMAZON.

PARA, *May 9, 1904.*

DEAR SIR: Complying with your verbal request of the 7th instant, regarding the desirability of the upper Amazon region as a field for young Americans with energy and capital of from $1,000 to $2,000, I will reply negatively.

My own experience applies only to the region above the Brazilian line, or, say, the Peruvian-Amazon basin, including the rivers Javari, Ucayali, Marañon, Tapiche, Pachitea, Tambo, and Urubamba. All of these are navigable rivers[a] above Iquitos except the Javari, which joins the Amazon below that city at the Brazilian line.

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[a] In conversation on this subject the writer of this letter informed me that during flood vessels drawing 7 feet could navigate these rivers for nearly a thousand miles, and at low water vessels drawing 5 to 6 feet could usually go the same distance. He had himself gone 1,600 miles above Iquitos.—AYMÉ.

The first difficulty to be encountered by any American in this region would be the great scarcity of labor, which is the principal drawback, only the native Indians being available, and these being almost all practically owned by the large rubber men by a system of indebtedness running back many years. Most of these debts are, undoubtedly, but a false paper indebtedness, but they are effective to bar the only labor to be had from any newcomer. And should the intending settler resolve to work himself and depend on his own efforts, as is common with us in the United States, he will, necessarily, have to compete with this degraded class of labor, which is of course impracticable.

Practically the only industry that is possible, on account of this scarcity of labor, is rubber, and that would be so only if it were practicable to unite a sufficient number of Indians under the above-described indebtedness system, which would require years to accomplish, not to speak of methods that an American would hardly care to put into practice.

Another great drawback is the fact that the whole upper Amazon basin is subject to annual overflows, which make it impossible to build homes on the rivers, as we are accustomed to do on our American rivers. There are only a few points in all the great stretch of river country that are above the flooding point, and these are commonly composed of rock or clay, quite unfit for cultivation.[a]

Americans with small capital who desire to enter into mercantile enterprise would find even greater difficulties to overcome, because the business of the country is carried on in a manner so entirely different from that of our own country. That is, this region is commercially almost entirely in the hands of Spanish-speaking North African Jews, chiefly from Morocco.[b] These have all strong south-of-Europe connections, who extend them long credits. These local merchants so supplied in turn supply the rubber men on long time with needed supplies, finally receiving their pay in rubber, which is consigned to their European houses. This system has brought about a state of barter which is carried on almost exclusively without money as a medium of exchange, and there is consequent necessity for an intimate knowledge of those persons with whom business is to be transacted to insure against loss.

The products of the various rivers are:

Javari; hevea, or fine rubber. Tapiche; the same. Marañon; a little fine rubber from the lower river, but from all the upper part only "caucho." This is true also of all lateral valleys and affluents. Ucayali; from the first few hundred miles above the mouth, hevea fino, then from all upper river, laterals, affluents, etc., "caucho." There are also a few small plantations of beans and yucca, of which a limited amount of "farina" is made. Pachitea; formerly there was "caucho" obtained from this river, but that close to shore has all been destroyed or worked out, and the savage Indians known as Chachivas, cannibals, who occupy the left bank of the river a little distance inland, keep it from either settlement or further rubber exploitation. Tambo is also practically in the hands of savage tribes not yet subjugated. Urubamba is the river now most generally worked by the rubber men for "caucho." This river forms a practicable highway to the Peruvian territory adjacent to the Acre country formerly held by Bolivia, but now administered by Brazil. It is said to be occupied by about two thousand Peruvians; that is, Indian "caucheros" under the administration of some eight or ten different Peruvian owners, or "amos." They are working principally on what is known as the "mano" of the Madre de Dios, to reach which from the Urubamba a divide or pass has to be traversed, necessitating a portage of some ten hours.

IMPORTS OF BRAZIL.

(*From Nachrichten für Handel und Industrie, an official German publication corresponding to the United States Consular Reports, of June 21, 1904.*)

The total value of Brazil's imports during the year 1902, according to a recent report made by the German consul-general at Rio de Janeiro, amounted to about $96,655,780. This indicates an increase of about 8½ per cent over the imports of 1901. The estimate made for 1903 indicates an increase of about $2,000,000 over 1902. The values of the imports of the different countries participating in this trade are as follows:

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[a] What is here said of the upper Amazon basin is even more true of the lower Amazon, as I have personally seen. The difference between low and flood level is from 30 to 45 feet. Every square inch of land worth having above flood line up to Iquitos has long since been preempted, and there is mighty little at that.—AYMÉ.

[b] The writer is speaking of the Peruvian Amazon region.—AYMÉ.

Imports of Brazil, by countries, 1902.

United Kingdom	$26,250,808
Germany	11,474,000
United States	11,266,275
France	9,019,513
Argentina	8,893,946
Portugal	6,639,290
Uruguay	5,341,363
English possessions	5,043,449
Italy	3,661,982
Belgium	2,288,171
Austria-Hungary	1,843,469
Sweden and Norway	1,055,510
Switzerland	819,196
Holland	791,153
Other countries	2,267,655
Total	96,655,780

CAMETÁ RUBBER OF BRAZIL.

(*From United States Consul Aymé, Para, Brazil.*)

The india-rubber production of the Amazon Valley presents a problem of the very greatest interest. Much is known to-day about the Hevea tree, its latex, the methods of collecting and coagulating the latex, and the subsequent handling of the rubber, but doubtless much more is still to be learned. It is very difficult to obtain any information from the Indians except concerning the regular routine work. The Indian can not, or at least does not, make generalizations, and does not note the causes of the phenomena he scarcely observes. Many of the data for the solution of the problem are therefore still lacking.

In the special grade of rubber known as Cametá I think an important indication leading to a solution of the rubber problem may be found. Cametá rubber is a special grade of "entrefino" or "sernamby" rubber, chiefly the latter. I am informed that small quantities of Cametá are beginning to come from some of the older districts that were exploited after the Tocantins, as the trade increased. This would seem to indicate the probable duration, under present conditions, of the production of fine rubber from any given field as from twenty to thirty years at the most. Cametá rubber is merely self-coagulated latex; at least such is the opinion of a very intelligent rubber collector. He said that even to-day there is much carelessness in tapping the trees to get the "milk." In the early days this carelessness was greater still. The constant wounding of the bark causes the trunk of the tree to swell very greatly, a tree that has been much tapped assuming bottle form, tripling and quadrupling its diameter. As the tapping goes on scar is inflicted on scar and there comes a time when the milk no longer flows, but merely trickles or oozes out. Then it is no longer practicable to collect the milk from the hundreds of small cups into a single receptacle, and it is allowed to slowly ooze and coagulate in the cups. The result is Cametá rubber; or as my informant put it, "Cametá rubber is the kind of rubber you get from old, tired-out trees."

It is this man's belief that if those same trees were allowed to remain quiet for some years they would recover much of their former productiveness, except where they have been injured beyond remedy. He believes that if trees are carefully tapped, so that the minimum of injury is inflicted, and are not too heavily drawn on, they will continue to give practically the same amount of latex annually for an indefinite time.

If it should be found hereafter that districts which now yield both fine and coarse rubber come to yield only Cametá, a positive factor in the determination of the probable future of rubber production would be attained. The whole question is of great interest and should be studied.

Louis H. Aymé, *Consul.*

Para, Brazil, *June 7, 1904.*

OIL AND CAKE OF PARA RUBBER-TREE SEED

(*From the Dutch paper, Holland Abroad, Amsterdam, May, 1904.*

The technical department of the Imperial Institute, which has been investigating the possibility of utilizing the seeds of the Para rubber tree, published some particulars regarding the oil and other products obtainable from these seeds. Para rubber-seed oil possesses properties very similar to those of linseed oil, and should therefore be suitable for the preparation of paints and oil varnishes, and for the manufacture of rubber substitutes, linoleum, and waterproofing materials. It could probably also be used like linseed oil in the manufacture of soft soap, but its color would preclude its employment in the preparation of hard soaps, except when there is a scarcity of cotton seed and similar light-colored nondrying oils. The cake left after expressing the oil from the decorticated seeds would probably be of value as a cattle food, since its calculated composition compares very favorably with that of the various cakes at present in use, and it is stated that animals readily eat the kernels in the Straits Settlements. A large consignment of the seeds has been already dispatched from the Straits Settlements in order that technical trials on a commercial scale may be conducted to determine the properties of the expressed oil, and at the same time to ascertain the value and suitability of the cake as a cattle food by analysis and by feeding trials.

A sample of Para rubber-seed meal, prepared in the Straits Settlements from the seeds without separation of the oil, was also forwarded to the Imperial Institute for examination, but this material in the form in which it was sent was found to be unsuitable for use either as a source of the oil, which had suffered change, or as a feeding stuff. Since the meal was found to contain over 1 per cent of phosphoric acid, it might be used as a dressing for grass land, as is rape meal, for which $21.90 a ton is paid in this country. The sample of meal sent for examination contained, in a decomposed state, the whole of the oil originally present in the seeds, and as the valuations indicate that the seeds as a source of oil would probably be worth at least from $48 to $58 per ton, their utilization for the preparation of meal similar to the sample could not be recommended. The cake left after expression of the oil might be utilized for manurial purposes, and it was, of course, with this object in view that the amount of phosphoric acid in the meal was determined, but here again it may be found that Para rubber-seed cake will be suitable for use as a cattle food, in which case it will probably be too valuable to be used as a manure. These questions are receiving further attention in the scientific and technical department of the Imperial Institute, and a further report on the subject will be issued.

YERBA MATÉ, A SUBSTITUTE FOR COFFEE AND TEA.

(*From United States Consul Aymé, Para, Brazil.*)

Yerba maté is a tea prepared from the roasted and pulverized leaves of the *Ilex paraguayensis*, an evergreen forest tree found in southern Brazil and the neighboring region. The trees attain considerable height, and are found in the forests, either isolated or, more rarely, in small groves. Isolated specimens have been grown, and the plant can no doubt be cultivated under proper conditions. It is not necessary to cultivate it here, as enough is found wild.

In Brazil it is found plentifully in Parana, Santa Catharina, and Matto-Grosso, and to a limited extent in Rio Grande. It is also found abundantly in Paraguay. It grows on the higher lands, usually from 1,000 to 2,000 feet above sea level and in rich alluvial or loamy leaf soils. It is said that the greatest difficulty in cultivation is found in securing germination of the seeds. It is popularly believed that the seeds will germinate only when the fruit has been eaten by birds, the hard seeds being excreted, as though they underwent some change in the bird's intestines.

Yerba maté is largely consumed in Paraguay and in the Brazilian States, where it is made. It is very extensively consumed in Argentina, in Uruguay, and to a less extent in Chile. There is a small consumption in other States of Brazil, and a very small quantity is exported to Europe, and still less to the United States and Canada. Estimated exports may reach 45,000 to 57,000 tons annually, thus: from Parana (principally to the River Plata), 25,000; from Santa Catharina, 5,000 to 6,000; from Matto-Grosso, 5,000 to 6,000; from Paraguay, 10,000.

The harvesting and preparation of yerba maté is as follows: The long outer branches of the tree are cut off, and these branches are passed rapidly through the flames of a great fire. This passing through the flame wilts and toughens the leaves. A rack or loose platform of interlaced branches, about 2 feet high, is constructed. Under this a slow fire is kept burning and upon it are spread the wilted branches of maté, tied up, sometimes in small bundles. The smoking and drying of the leaves to bring out the full aroma requires considerable skill. When the leaves are perfectly dry they are cleaned from sticks and dust and beaten or ground into powder. The coarseness or fineness of this powder varies in the different markets. The manufacture is carried on in factories established in the towns; thus there are some dozen factories in Curytiba, in the State of Parana.

Yerba maté has a peculiar bitter, smoky taste, which is usually considered unpleasant, and this has largely operated to prevent its more extensive use as a beverage. This smoky bitterness is chiefly due to the rude method employed for drying the leaves, and it seems likely that improved methods of drying the maté on iron or copper pans would give a much more delicate and agreeable product. Maté is said to have all of the best qualities of coffee and tea as a stimulating health beverage, without the disadvantages of either. It is a more gentle stimulant than either and is said to be much used in the hospitals of Paris.

The tree could probably be grown in southern California, perhaps in southern Texas, certainly in many parts of the Philippines.

LOUIS H. AYMÉ, *Consul.*

PARA, BRAZIL, *June 6, 1904.*

MEXICAN TRADE COMMISSION TO CENTRAL AND SOUTH AMERICA.

(*From España Económica y Financiera of May, 1904, Madrid, Spain.*)

In 1902, acting upon the initiative of the Mexican minister of finance, Mr. Limantour, the Mexican Government sent a commercial mission to the countries of Central and South America with instructions to study trade conditions, establish trade relations, and open new markets for Mexican products. The representatives in Mexico of the countries of Central and South America were notified of the Government's intentions and purposes in sending the commission and of the time when the visits would be made. Authority was given the envoys to promise steamship companies liberal subsidies in case they would establish lines to facilitate trade and to cheapen transportation. The commission left Mexico in September, 1902, going to Europe, whence it sailed to South America. It returned in May, 1903, after having visited several South American countries. The result was a failure. This appears from the statements made by the commissioners in their report. The members are very frank in admitting the nonsuccess of the enterprise, although they hope for better results another time.

They attribute the failure to establish better trade relations to the following causes: (1) the insufficiency of the means of transportation; (2) the excellent methods which European merchants and manufacturers employ in their trade relations with the Central and South American States; (3) the uselessness of offering subsidies to steamship lines unless a minimum of freight can be guaranteed; (4) the system of credit inaugurated and followed by European houses, which permits payment to be made in the form of natural products, such as caoutchouc, coffee, hides, tobacco, etc.; (5) the similarity of Central and South American products to those of Mexico; (6) high tariffs; (7) difficulty in adjusting products to the taste of customers.

The commission merits only praise and applause; it did the best it could under unfavorable circumstances. It is not easy to obtain advantages from one visit. Much more depends sometimes upon social than upon official relations; if the former are happily established they are likely to be permanent and to lead to good results.

OPPORTUNITIES FOR EMPLOYMENT IN MEXICO.

(*From United States Vice-Consul-General Conley, Mexico City, Mexico.*)

In general, it may be said that Mexico is no place for a man without capital. It is a new country, in the sense that it possesses great natural resources as yet undeveloped, but most of these can be developed only by the aid of capital. They have been exploited for nearly four centuries just as far as transportation facilities and methods of individual industry have permitted. Modern machinery and modern transportation facilities make possible the profitable exploitation of natural resources which hitherto could not be taken advantage of because of the lack of these things. The man with abundant capital to do this will make money; and he must have men with brains, technical education, and adaptability to get the wealth out of the natural resources which he commands with his capital. Such employees are likely to do well. It is impossible to say whether they would do better in Mexico than they would in the United States, but an opening for young men possessing these requirements undoubtedly exists. Strange to say, almost no letters of inquiry concerning employment are received at this office from this class. It may be that a technical education gives the young man more confidence and self-reliance than does a professional education; or it may be that more openings exist in the United States for this class of young men than for young men with professional educations, in proportion to their number.

There is room in Mexico for the engineer, electrical, mining, mechanical, or civil, the architect, the veterinarian, the scientific agriculturist, the practical man in any line. If he has such an education, good health, and possesses the stuff that pioneers are made of, the chances are that he will be ultimately successful in Mexico, from a pecuniary standpoint. The probabilities are that he will not do as well at the start as he would have done in the United States, and that he never will do as well if he is the sort of man to continue to work for a salary, but if he is of a disposition to climb to an independent basis and work out his own fortune, the materials for it are at hand.

A prime requisite for any person who desires to come to Mexico to earn his living is a knowledge of Spanish. A young man who intends to come to Mexico to work should learn all the Spanish he can—which will probably be very little—before leaving the United States. The first and most important thing for him to do after arriving in Mexico is to pursue his study of the language of the country. Without a good working knowledge of it his chances for doing well are, indeed, very limited.

Generally it is useless for a man to try to obtain employment in Mexico or anywhere else by means of correspondence. Occasionally positions are secured here by persons in the United States by advertising in the local papers, but not often. It is the man on the ground that gets the position. Therefore, if a young man in the United States desires to secure a position in Mexico he should come here and make a personal canvass for it, but he should not come unless he has sufficient money to live for several months while seeking employment and to pay his way back home if necessary. It is impossible to say just what this amount should be, but a safe sum would be what it would cost to live in a city in the United States for six months, plus railroad fare home.

Regularly at this season of the year this office is deluged with letters from prospective graduates of medical, dental, pharmaceutical, and law schools, and other institutions of learning, asking to be advised about starting life in a practical way in Mexico. Mexico doesn't need budding doctors, dentists, druggists, opticians, lawyers, or schoolteachers. She already has more than she knows what to do with. Undoubtedly one of the reasons for the lack of greater industrial progress in Mexico heretofore has been the fact that, broadly speaking, there have been only two classes, the very rich and the very poor. The boys of the upper classes have all been educated to be professional men and the boys of the lower classes have had no education worth speaking of. Under the wise guidance of President Diaz a middle class is developing in Mexico, and technical schools are being established here. Mexicans are just beginning to realize that there is a great field for young men with a technical education, and the boys of the upper classes, as well as of this growing middle class, are beginning to fit themselves to take an active part in the development of the resources of their own country.

So far as the requirements for practicing the professions in Mexico go, they are indeed very liberal. Physicians and dentists may practice in any part of the country without other formality than the payment of the regular contribution tax, which is very light, and which is levied upon all business or professional men according to the income derived from their profession. Physicians can not, however, issue death certificates without first having passed the regular Government examination, in Spanish, and obtained a Government diploma. It is customary for physicians not having such a diploma to associate themselves with local physicians who have. Diplomas from medical or dental colleges in the United States are valuable to holders in Mexico only as a mark of ability. They have not and at present can not be given any legal weight. A similar rule applies to lawyers' diplomas. An attorney is not authorized to practice before the courts in Mexico until he has passed the regular Government examination and obtained a license. It is therefore the custom of American lawyers in Mexico to associate themselves with local lawyers who possess Government licenses. Every drug store must have connected with it a pharmacist who possesses a Government diploma, who is considered by the authorities to be the responsible person of the establishment. The other clerks of the store are not required to possess such a license, but any prescriptions filled by them must be checked by the responsible person. It is almost essential for American physicians, pharmacists, and lawyers to learn Spanish as quickly as possible and to fit themselves to pass the Government examinations, but in the meantime they may be able to earn something by practicing without Government licenses.

From a salary standpoint a school-teacher should never come to Mexico. He or she can invariably do better in the United States. If the teacher wishes to come to Mexico for other reasons, regardless of salary, that is another matter, and one with which this office has nothing to do; but it might be said that opportunities for employment as teachers or tutors at any salary are exceedingly scarce.

Many letters are received at this office from stenographers, clerks, and office men relative to securing employment in Mexico. Without a good knowledge of Spanish such persons should by all means remain in the United States, and even if they have a good knowledge of Spanish it would usually be better to do so, for an English-Spanish stenographer or, in general, any person occupying a clerical position who is familiar with one or more foreign languages, can secure a better salary in the United States than in Mexico.

Generally speaking, salaries in Mexico are lower than for corresponding positions in the United States, and the cost of living is just as great or greater. Newcomers usually have an erroneous idea as to the cost of living in Mexico. A salary of $225 a month Mexican currency sounds bigger than a salary of $100 a month United States currency, and one who has not tried it usually believes that he can make $225 Mexican currency go further in Mexico than he can make $100 United States currency go in the United States. This is not true. As has been stated, the cost of living, in gold, is just as great in Mexico as in the United States, or greater.

Many letters are received from persons of all of the foregoing classes who are in ill health and desire to come to Mexico for that reason. Mexico is a health resort, but it can not be considered such for any person who purposes doing indoor work. Any advantages which may be gained from the climate must be gained by constant outdoor exercise.

Letters are also received from a class of people who have tried "pioneering" in various of the newer regions of our own West and have acquired the roving habit. Mexico is no place for such adventurers. Opportunities for getting rich undoubtedly do exist here, but the process of acquiring wealth is attended with more hardship and requires more persistence, more fixedness of purpose, and more hard work than in the United States, at least in the beginning.

Thus far this subject has been considered mainly from the standpoint of the young man or the young woman at the beginning of practical life. The term "young man" includes "young woman," in so far as the remarks may be applicable to young women. The expert in any line, the specialist in any profession, can find an opening in Mexico, as he can in any other civilized country. Whether such a man can do as well here as in the United States is seriously to be doubted. He can usually find a wider scope for his attainments in a country where the population is great, where wealth is abundant, where civilization, viewed from a material standpoint, is high, than in a new country or a backward old country; but such a man does not usually ask for advice as to where to locate; he is able to form his own opinion.

An American young man may be compared to a person who enjoys the best of health and doesn't know what sickness really is; he does not realize the advantages of living in the United States nor the sacrifices that must be made in coming to a foreign country, especially such a country as Mexico. The amount a young man is able to earn at the beginning of his career is really a very small matter. If he is working in the United States, he is obliged to compete with other young men who are just as bright or brighter than he is, and he therefore has every incentive to do the very best work of which he is capable. He has the example of older, successful men before him; he takes his orders from men who know their business thoroughly and from whom he is always learning something. Whatever may be his vocation, he moves in society which, for the class, is the best to be found anywhere. He has educational advantages aside from schools and colleges. He lives and has his being in an air of progress, and if there is anything in him he is going to progress. In addition to all this, he has the pleasure of being with his family and his friends, with people speaking his own language and living according to the manners and customs he has grown up with. Going from the country to the city, or from one place to another in the United States, is a different matter from coming to Mexico. It is true he transplants himself, but within a few months he has grown so accustomed to the new conditions that he has almost forgotten the change. Coming to Mexico is different. One leaves behind his family and friends, his accustomed manner of living, the social and educational advantages to be found in the United States, the stimulus of competition and emulation. He not only has to earn money for his living, but he has to make a new place for himself in what is, to all intents and purposes, a new world; he has to create for himself a new environment. All that he was able to get out of his environment before, he now has to get out of himself, and he is just as likely to go backward as forward, if not more so. Working in a mine, several days from a railroad, isn't conducive to mental activity; working on a plantation, with perhaps only one or two Americans within a day's ride, does not produce an atmosphere for mental growth; working in a power plant in an isolated place, where the only companions one has are of the easy-going "mañana" type, does not call out all the ability or even the best of the ability one has; working in a city office where one already knows just about as much as do the people he is thrown with does not produce a spirit of emulation; working anywhere in the company of men, Americans or others, whose principal object in life seems to be to do just as little as possible, to know just as little as possible, and to forget even that, if possible—to get along any way, just so they get along—does not spur a man to self-development. This does not appear as forcible to a northern reader as it will to a person who has lived here for a number of years. The young man with rich blood, robust health, full of energy and ambition in the north will say, "That is just the place for me. If everybody else is easy-going, my energy ought to count for more than it does here, where everybody else is hustling." That is just where he makes the mistake. When everybody around him is hustling he is obliged to hustle. He may hustle for a while after he gets here; he usually does, and brings on a spell of sickness by his over-energy at the start. But by the time his blood thins out, when he has learned the language, manners, and customs of the country, and is therefore ready to accomplish something, he begins to realize that the people who have lived here for four hundred years really do know something about living here. He begins to appreciate that he can not do so much work here, in the thin air of the high tablelands or the tropical heat of the lower regions, as he did in the north. In the course of time he begins to think, What is the use of working so hard, anyway? And, a little later, of how foolish he was to have ever worked so hard. Writers frequently speculate as to what would have been the present condition of Mexico if the Pilgrim Fathers had landed at Veracruz instead of at Plymouth Rock. Perhaps it would not be so very much different from what it is. It has been shown in actual experience that Americans and Englishmen who have emigrated to Mexico have, after the second generation, lost most of their original characteristics, including their energy. If that is true, what might have happened to them in four hundred years? Perhaps by the constant addition of fresh blood the race energy might have been kept up, but left to itself there is no doubt that the stock would have sadly degenerated.

The young man who wishes to come to Mexico to spend two or three years, to learn the language and business methods of the country, to obtain the experience of foreign travel, and then to return to the United States, is in a different class and is not considered in this article. If he has any capacity, a desire to work, and enough money to live on for a while and to pay his way home if he is unsuccessful in finding employment, let him come. He will spend the time profitably, if he is serious minded, regardless of salary.

It is seriously to be doubted if, nine times out of ten, the same amount of energy and ability will not accomplish more in the United States than in Mexico. It is nevertheless true that we have reached a stage in our national life where we have begun to think of spreading out. Practically a new race has developed in the United States and it is beginning to send its offspring into all parts of the earth. From a commercial view point this is undoubtedly a good thing. Every American who leaves home to reside in a foreign country is an entering wedge for American trade. The spirit of adventure is strong in Americans, and young Americans, particularly, think more each year of seeking their fortunes in foreign lands. If this be the view taken and if the young man wishes to go to a foreign country to hew out his destiny, there is probably no better country to go to than Mexico. Its government is stable, it is prosperous, all lines of business and industry are active, and it possesses great possibilities. Any person who comes here, however, should be fully equipped to do at least one thing well. There is no room here for the young man who is "willing to do anything," but is not fitted for any particular thing.

This office is frequently called upon for advice or assistance by another class of persons—mechanics, artisans, railroad men, and others perhaps in middle life—who have been employed to come to Mexico to work, under misrepresentation of the situation actually existing here. The object of the foregoing remarks is to warn young men against coming to Mexico without due thought and preparation. What applies to young men applies with double force to older men. The mechanic or artisan usually comes to Mexico to accept definite employment, and conditions here are usually misrepresented to him. In the first place he should, by all means, exact a written contract from his employer or a duly authorized representative of his employer, setting forth fully and clearly the terms and conditions under which he is to work. A verbal contract is a very difficult thing to prove in any court, and if a man arrives here without a written contract and finds conditions totally different from what he had been led to believe they were he has no recourse. If he desires to come to Mexico to seek employment he should be governed by the rules above stated as to bringing with him sufficient money to live on while seeking employment and to pay his fare back home.

Mexico is not a place for the American common laborer under any circumstances. It is absolutely impossible for him to compete with the native Mexican, and he should be prevented by every possible means from coming here. In a few cases tropical plantation companies have arranged with employment agencies or individuals to secure contract labor for them in the United States, and have brought a number of negroes or other common laborers to Mexico to work upon their plantations. In most cases the plantation companies have been innocent of intentional misrepresentation of conditions here. They have informed the agency or persons who were employed by them to secure laborers in the United States of the exact terms and conditions of employment, but the agency or persons who employed the laborers in the United States, in order to secure the requisite number with the least possible trouble, have grossly misrepresented the conditions under which the laborers were expected to work, the amount of salary they were to receive, etc., with the result that when they arrived they found the conditions unbearable, and, being for the most part very ignorant negroes, were in a most deplorable condition. It is not likely, however, that this experiment will be repeated, for it has invariably proved costly to the plantation companies.

EDWARD M. CONLEY, *Vice-Consul-General.*

MEXICO CITY, MEXICO, *June 13, 1904.*

PUBLIC IMPROVEMENTS IN PANAMA.

(*From United States Consul-General Gudger, Panama.*)

The Republic of Panama, having received the $10,000,000 from the United States—the amount due on account of the canal contract—seems to be intent on carrying into effect the various public improvements throughout the Republic which have been contemplated for some time.

This idea finally culminated in an act by the National Assembly on the 6th of June, 1904, by which certain sums were appropriated to the various Provinces, as follows:

Province of Panama, $1,000,000; Province of Colon, $300,000; Province of Chiriqui, $450,000; Province of Cocle, $350,000; Province of Los Santos, $350,000; Province of Vera Aguas, $350,000; Province of Bocas del Torro, $450,000.

Section 6 of the bill provides that within sixty days the President of the Republic shall send to each one of the Provinces engineers and architects, whose duty it shall be to study the various improvements contemplated and present plans and specifications showing cost, etc., of each. These plans and specifications must be submitted to the secretary of public works on or before the 31st of December next.

The act gives the President of the Republic the right to admit free of duty all material used in these public improvements.

The improvements for the Province of Panama consist in part of the following: capitol or public government building; municipal palace; palace of justice; library and museum university; university for the sciences; school of arts, offices, and commerce; theater; police station; public jail; and a normal college for young men. Some two years ago Governor Carlos Alban, who was at the time at the head of the Colombian forces on the Pacific slope, was killed in an engagement in the Bay of Panama. Subsequently a park was opened in the city near the Panama Railroad station and named in honor of this distinguished Colombian. From time to time since that date there have been some improvements of this park, and now in this bill an appropriation has been donated for the purpose "of improving and beautifying Alban Park."

In the other provinces the fund is to be used for various and sundry purposes, among which are named the following: erection of houses for the governors, police stations, normal schools, prisons, court-houses, hospitals, boring artesian wells, erecting bridges of iron and wood across rivers and streams, opening up public roads through the interior, cleaning harbors and opening up rivers, establishing electric plants in various municipalities, erecting light-houses, and making other improvements along the lines indicated above.

If there are those who wish more specific information as regards these matters, Hon. Manuel Quintero V., secretary of public works, Panama, will doubtless give the information desired on application.

H. A. GUDGER, *Consul-General.*

PANAMA, REPUBLIC OF PANAMA, *June 10, 1904.*

IMPORTS AND EXPORTS OF URUGUAY.

(*From United States Consul Hopley, Montevideo, Uruguay.*)

The imports into and the exports from Uruguay for the year 1903, as compared with those for the year 1902, together with the increase or decrease in the various articles, were as follows:

Imports into Uruguay in 1902 and 1903.

Articles.	1902	1903	Increase (+) and decrease (−).
Wines and liquors	$1,990,363	$1,786,176	− $204,187
Comestibles, cereals, and spices	5,048,819	4,833,518	− 214,801
Tobacco and cigars	208,909	252,229	+ 43,320
Soft goods and materials	4,511,764	5,078,362	+ 566,598
Ready-made clothing	1,055,256	1,179,783	+ 124,527
Raw material and machinery	7,346,662	8,162,091	+ 815,429
Live stock	801,667	966,423	+ 164,756
Various articles	2,554,407	2,845,384	+ 290,977
Total	23,517,347	25,103,966	+1,586,619

Exports from Uruguay in 1902 and 1903.

Articles.	1902	1903	Increase (+) and decrease (−).
Slaughterhouse products	$29,737,992	$33,832,374	+$4,094,382
Live stock	611,945	859,648	+ 247,703
Agricultural products	2,458,827	1,921,441	− 537,386
Other products	603,972	525,621	− 78,351
Various articles	37,614	18,587	− 19,027
Provisions for vessels	152,162	160,238	+ 8,076
Total	33,602,512	37,317,909	+ 3,715,397

The following shows the total exports and imports in the past ten years, with the excess of exports in each year:

Exports and imports of Uruguay, 1894 to 1903.

Year.	Exports.	Imports.	Excess of exports.
1894	$33,479,511	$23,800,370	$9,679,141
1895	32,543,644	25,386,106	7,157,538
1896	30,403,084	25,530,185	4,872,899
1897	29,319,553	19,512,216	9,807,337
1898	30,276,916	24,784,360	5,492,556
1899	36,574,164	25,652,788	10,921,376
1900	29,410,862	23,978,206	5,432,656
1901	27,731,126	23,691,932	4,039,194
1902	33,602,512	23,517,347	10,085,165
1903	37,317,909	25,103,966	12,213,943
Grand total	320,659,281	240,957,476	79,701,805

From the foregoing table it will be seen that in the past ten years the exports exceeded the imports by nearly $80,000,000, showing the wonderful productiveness of this country. This, too, in the face of the fact that the Republic had a serious revolution in 1897, and minor revolutions in 1899, 1901, and 1903. All this is a proof of the wonderful development in store for this country, once its agriculture, commerce, and manufactures are freed from anything more than the normal uncertainties that attend them in other countries.

JOHN E. HOPLEY, *Consul.*

MONTEVIDEO, URUGUAY, *May 18, 1904.*

LAWS GOVERNING FOREIGN COMPANIES IN VENEZUELA.

(From United States Consul Plumacher, Maracaibo, Venezuela.)

The Venezuela Herald prints the new law now in force in relation to foreign companies, as follows:

Article 293. Foreign companies may do business in Venezuela and appear in court, either as plaintiffs or as defendants, but they shall be subject to the legal provisions governing nonresidents.

Article 294. Foreign companies desiring to establish agencies, branches, or exploitations in Venezuela, be they simple partnership or limited capital companies, shall comply with the same requirements established for national companies; and if they be limited stock companies they shall register in the commercial registry office of the place where their agency or exploitation is situated, and publish in a paper of the same locality the memorandum of association and other documents necessary for the formation of companies, in accordance with the laws of their nationality, as well as an authenticated copy of the articles referred to in said laws.

They shall also forward a copy of their statutes, to be filed at the registry office.

ARTICLE 295. Any alteration made in the memorandum of association or in the statutes shall likewise be registered and published in the manner set forth in the preceding article.

ARTICLE 296. Foreign companies having exploitations, agencies, or branches in Venezuela shall have a representative in the Republic holding full power of attorney within the limits of their concessions and titles.

ARTICLE 297. Any foreign assurance company, in order to be able to carry on business in Venezuela, must own real estate, free from all incumbrance, in the country, of such a value as the national executive shall decide in each case, in accordance with the importance of the company and of the business it may transact. This value shall not be less than B. 600,000 ($11,580) for life insurance companies or B. 200,000 ($3,860) for other companies, and it may be made to equal up to 25 per cent of the sums insured by such companies in the country.

ARTICLE 298. Failure to comply with the provisions set forth in article 294, regarding the formation of companies, shall render the administrators, agents, representatives, or others who may contract in their name, personally and collectively liable for all obligations contracted in the country, without prejudice to the rights of third parties to take action against the company.

Those who may contract in the name of assurance companies that have not fulfilled all legal requisites shall furthermore be liable to a fine or imprisonment.

ARTICLE 299. The jursidiction of Venezuelan courts, according to the laws of Venezuela governing assurance contracts made by foreign companies, can in no case be renounced.

ARTICLE 300. Foreign companies already having agencies, branches, or exploitations in Venezuela shall comply with the provisions of article 294 within six months from the date of publication of this code.

Assurance companies shall carry out the disposition contained in article 297 within the same term.

E. H. PLUMACHER, *Consul.*

MARACAIBO, VENEZUELA, *June 1, 1904.*

BUSINESS OPPORTUNITIES ABROAD.

(From United States Consul-General Guenther, Frankfort, Germany.)

New harbor works are to be constructed at Rosario, Argentina, which are estimated to cost $11,600,000 in gold.

A new harbor is to be built at Nelilla, and one on the Chafarinas Islands, in Morocco. The Spanish Government will grant a subvention for said objects.

Various extensive public works (including drainage of the city and erection of market halls and Government buildings) are to be carried on in Konstanza, Kingdom of Roumania.

The city of Cape Town, South Africa, is about to extend its waterworks at an expenditure of $10,000,000.

The introduction of electric traction on the Tranvía Rural, city of Buenos Ayres, is contemplated.

An experimental dairy is to be established by the Spanish Government at Valladolid, Spain.

New floating docks are to be erected at Bordeaux, France; for particulars apply to the Chamber of Commerce of that city.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *June 10, 1904.*

Harbor improvements (new docks, storage sheds, bridge, electric cranes, etc., are to be made at Victoria, State of Espirito Santo, Brazil.

A new railway line, 38 miles long, is to be built from Warora to Belapur, British East Indies, at an estimated cost of about $1,000,000.

The town of Meran, Austria, is going to introduce a drainage system to cost about $140,000.

An electric plant is to be installed for the railroad freight depot at Brussels, Belgium.

The governor of Tepic, Mexico, will receive bids for the construction of an electric plant.

Last month a "commercial association" was organized in Budapest to promote the business interests of Hungary. This new association already contains 14,949 members, and hopes to swell the number to 120,000.

The chamber of commerce of Sofia, the capital of Bulgaria, has recently established a special bureau for the purpose of giving information to foreign as well as to native merchants on Bulgarian business matters, such as transportation facilities, freight charges, tariff rates, and licenses, as also the credit rating and financial responsibility of business firms. All inquiries, catalogues, etc., to be distributed, should be addressed to "La Chambre de Commerce, Sofia, Bulgaria."

The municipality of Ascoli Piceno, Italy, offers a premium of $50,000 to a new industrial enterprise locating in the town which will afford daily employment to 150 persons during the first two years, to 200 persons during the next two years, and to 300 persons thereafter. Offers must be handed by August 31, 1904, to the "Direzione della Cassa di Rispanio," Ascoli Piceno, Italy.

The minister of agriculture at Pietermaritzburg, Natal, South Africa, will receive proposals for the building and operating of a sugar factory with a producing capacity of 15,000 tons of sugar in a season and for a track to connect this factory with the Natal Railway. The factory is to be located at Amatikulu, Zululand, Natal, South Africa.

The government of the State of Rio Grande do Sul (Brazil) is negotiating for a loan of $546,000 to be expended in extending and improving railroad lines.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *June 24, 1904.*

HINTS FOR FOREIGN BUSINESS.

(*From United States Consul-General Guenther, Frankfort, Germany.*)

The French consul at Jassy reports to his Government that there is considerable demand for india-rubber shoes in Roumania. At present Russian and Austrian manufacturers supply that country with rubber shoes.

The Italian Government contemplates the construction of extensive waterworks in the Provinces of Foggia, Bari, and Lecce. The estimated expenditure is nearly $25,000,000.

The municipality of St. Petersburg, Russia, is preparing to build a canal to connect the river Neva with Lake Onega and the White Sea.

The Ironmonger, of London, says:

> The near completion of the electrical plants in Bombay, India, will cause a large demand for ventilators and various other appliances. Arabia is a large purchaser of well-boring machines in the Bombay market. These must be of simple construction and must have parts light enough to be carried by camels.

An importing firm in Bombay recently ordered a large lot of mangles and other implements for laundering. British India, with its 300,000,000 people, might become a good market for cheap machines for washing and laundering purposes.

Plans are now being made to improve the harbor works of the cities of Brindisi and Reggio, Italy.

The French consul at Habana calls the attention of French manufacturers to the growing demand for patent medicines in Cuba, where physicians are scarce. He says that of the $316,000 worth of patent medicines imported by Cuba during the fiscal year 1902-3, France furnished $201,500 worth. Our patent medicine manufacturers ought to act upon this information.

New South Wales and Victoria, Australia, contemplate the substitution of electric for steam power on their railroads. They will initiate this change on some of the suburban lines before extending it to the trunk lines. American electric construction companies should be early in the field to study this subject, so as to be ready to submit proposals for carrying out the project. The chief commissioner of railroads of New South Wales lately stated that the railroad line from Milsons Point to Hornsby would be the first on which the change to electric traction would be made.

A German trade paper published in Sydney advises German manufacturers who wish to compete for Australia's trade to unite and send to that country able business and technical experts, men who will become permanent residents there. They should be well paid and furnished with ample funds to enable them to be hospitable and liberal in meeting social demands. This will give them excellent means of opening business connections and getting orders for German products.

The Austrian consul-general at Warsaw reports to his Government that the prospects for business improvement in Russia are very poor. Day after day the number of factories discharging hands and shortening working time increases. Manufacturers' agents and commercial travelers who are soliciting orders state that solid firms will make only small purchases and that others can not be trusted. Iron works and such as furnish war materials, however, are doing well.

RICHARD GUENTHER, *Consul-general.*

FRANKFORT, GERMANY, *June 18, 1904.*

EUROPEAN COMMERCIAL NOTES.

(*From United States Consul Warner, Leipzig, Germany.*)

Army supplies for Russia.—It is reported that the Imperial Russian Government is now negotiating with the representatives of several of the largest arms foundries of Austria for the manufacture of quantities of army supplies. One of the most prominent Bohemian concerns is said to have already received a large order for big cannon for the Russian navy.

Manufacturing war materials.—The Friedrich Krupp Steel Works, of Essen, Germany, is very busy manufacturing cannon and gun carriages of all kinds, as a result of the Asiatic war. It has already received an order for a large number of field pieces.

Antitrust law for Hungary.—The Hungarian minister of industry and commerce has informed the Hungarian House of Representatives that it is his intention to introduce a bill covering measures to control and regulate industrial and commercial combinations, remarking, at the same time, that the sooner such a law is enacted the better it will be for the country.

It will be remembered that Hungary passed a law about three years ago forbidding a national representative from introducing or attempting to secure the passage of any act which would, directly or indirectly, benefit himself or any company with which he might be associated or connected.

Pig iron production of Russia.—During the year 1903 the production of pig iron in Russia was 2,689,604.64 tons, which is 144,452 tons less than in 1902 and 523,638.5 tons less than in 1900.

Association of Belgian looking-glass manufacturers.—The recent attempts, at Brussels, of the Belgian looking-glass manufacturers to form a syndicate have not been altogether successful, although a combination of eight companies has been effected. The indications are that a syndicate comprising all of the looking-glass manufacturers of the country will soon be formed. The main purpose of the new organization will be to limit the production of each factory and increase the price of looking-glasses in order to restore this branch of industry to a satisfactory state.

Russian coal mines to sell direct to consumers.—At a recent conference of the coal-mining companies of the Dombrowo basin it was unanimously decided that the companies should sell their coal direct to consumers instead of through dealers, as the latter are said to be responsible, to a very large extent, for the advance in the price of coal.

China a market for needles.—Strange as it may seem, China is the largest purchaser of German needles. Indeed, about 50 per cent of the needles exported from Germany are sent to China. The total value of the needles exported from the United States to China during the year ending June 30, 1902, amounted to $2.

New electric plant in Italy.—A joint stock company with an authorized capital of 2,500,000 lire ($482,500) has just been organized at Milan, Italy, for the purpose of utilizing the water power of the province of Liguria for an electric plant.

Japan a market for German iron.—During the first four months of 1904, 4,804.8 metric tons of steel rails were exported from Germany to Japan, against 15,016 metric tons during the last year. For the same period in 1904, 6,404.5 metric tons of malleable iron, 4,546 metric tons of sheet iron, and 2,519.9 metric tons of wire were exported from Germany to Japan, against 9,968.7 metric tons, 463.2 metric tons, and 2,216.6 metric tons, respectively, during the first four months of 1903. A quantity of material for building bridges is also being sent from this country to Japan.

Russia a market for naval stores.—The Berlin Chamber of Commerce announces that the Russian Government has placed tar pitch, which is to be used in connection with the manufacture of coal briquettes, upon the "free list." From January 1 to April 30, 1904, 3,839.4 metric tons of naval stores, including rosin, tar, pitch, and turpentine, were imported into Russia from Germany, against 5,029.8 metric tons during the first four months of 1903.

English iron for Germany.—It is reported that several iron furnaces which are located in the vicinity of Middleborough, Yorkshire, England, have recently received large orders from Germany for pig iron, to be delivered during the course of the summer months. From January 1 to April 30, 1904, England has exported 43,894.4 metric tons of pig iron to Germany, against 28,973.2 in the same period in 1903.

Agreement regarding export of steel rails.—At a recent conference the German, Belgian, and English manufacturers of steel rails arrived at an understanding regarding the general export trade. According to the agreement English mills are to furnish 56 per cent of the foreign orders received, while those of Belgium and Germany will supply together the remaining 44 per cent. Is this an indication that the iron and steel interests of Europe are to combine in order to compete more successfully with those of the United States in the export trade? In 1902 Germany's exports of steel rails were valued at 35,127,000 marks ($8,360,226), of which 8,272,000 marks' ($1,968,736) worth were shipped to the United States. The amount was even larger in 1903. The prospects are that the exports of German steel rails will fall off considerably this year, as the United States and Canada have ceased to purchase entirely, while Mexico, Great Britain, Holland, and Japan have bought in much smaller quantities than formerly.

BRAINARD H. WARNER, JR., *Consul.*

LEIPZIG, GERMANY, *June 17, 1904.*

BELGIAN ENTERPRISES IN CHINA.

Le Mercure, a French journal, in its issue of May 29, says:

> The construction of the Peking-Hankau Railroad is the most important of the Belgian enterprises in China. The imperial decree authorizing the viceroys of Chili and Hupeh and the director-general of Chinese railroads to make a loan for the Lukuchio-Hankau Railroad was signed in June, 1898.
>
> A company composed of Belgian and French capitalists has subscribed to $21,712,000 of this loan. This company has also been assured the construction of the line for 932 miles. The roadbed and rolling stock will be valued at $3,280,000.
>
> Another company has obtained a concession for the construction of a line from Kaifeng to Honan, which will ultimately be continued to Kansu.
>
> The International Tramway and Lighting Company of Tientsin has been formed, with a capital of $1,206,000, and is located at Brussels.
>
> In March, 1902, the Chinese-Belgian Bank was formed, with a capital of $193,000 and an agent at Shanghai.
>
> Important Belgian interests are also engaged in the Chinese Engineering and Mining Company, at Kaiping, and the Grand Hotel Sleeping Car Company, at Peking.
>
> In addition, different Belgian companies are exploiting Chinese mines.

TUBERCULOSIS IN BELGIUM.

While actual statistics are not available, it is estimated that the deaths from tuberculosis throughout the Kingdom of Belgium in 1904 were 13,467, of which number the Province of Liege contributed 1,742, the city of Liege giving 398. This malady is seemingly on the increase and efforts are being made to provide sanitariums for the afflicted. The Province of Liege has already expended 1,300,000 francs ($250,900) in this matter, and will go further in its endeavor to offer medical care and attention to the afflicted.

JAMES C. MCNALLY, *Consul.*

LIEGE, BELGIUM, *May 17, 1904.*

COMMERCIAL EDUCATION IN BOSNIA.

(From United States Commercial Agent Harris, Eibenstock, Germany.)

There are nine commercial schools in Bosnia, in the places named below; the number of pupils in the school follows the name of the place: Banjaluka, 69; Bihar, 40; Bjelina, 44; Breka, 62; Dolnja Tuzla, 43; Livno, 48; Mostar, 59; Sarajevo, 62; Travnik, 37. Total number of schools, 9; total number of pupils, 464.

Pupils are admitted to these schools after completing the prescribed courses in the public schools. The average age of admission is 12 years. The commercial schools are under the supervision of an inspector who holds office by Government appointment. The school year lasts ten months, from September 1 to June 30. The afternoons of Wednesdays and Fridays of each week are set apart as holidays out of consideration for the pupils of Mohammedan faith. The other holidays are those usually observed in Catholic and Protestant countries. The hours of instruction are from 8 to 12 during the forenoon, and from 2 to 4 in the afternoon. The subjects taught in these schools are religion, arithmetic, geography, physics, bookkeeping, commercial law, language of the country, geometry, history, chemistry, correspondence, stenography, free-hand drawing, German, natural history, materials of commerce, history of commerce, statistics.

I am indebted for the facts in this report to Franz Glasser's Commercielle Bildungswesen in Bosnien und Herzegovina.

Ernest L. Harris, *Commercial Agent.*

Eibenstock, Germany, *June 1, 1904.*

BULGARIAN TRADE.

(*Condensed from Nachrichten für Handel und Industrie, May 31, 1904.*)

Bulgaria's imports for the first four months of 1904 amounted to $5,073,339, against $3,670,000 for a like period in 1903. The exports were $6,180,000 and $4,825,000, respectively. The relative positions of the leading nations participating in this trade, with the approximate share of each, were as follows:

Trade of Bulgaria, by countries, 1903 and 1904.

Country.	Imports.		Exports.	
	1903	1904	1903	1904
	Francs.	*Francs.*	*Francs.*	*Francs.*
Belgium	485,000	532,000	6,648,000	11,085,000
Great Britain	3,958,000	4,238,000	5,728,000	6,818,000
Austria-Hungary	4,757,000	8,037,000	1,836,000	2,546,000
Turkey	3,048,000	3,478,000	3,709,000	4,096,000
Germany	2,533,000	4,216,000	2,429,000	2,708,000
France	974,000	1,920,000	2,020,000	1,642,000

The United States, it will be noticed, is not in the list; and yet Bulgaria imports a great many articles in the production of which we excel some and equal almost all others. For example, in the list of imports one finds cotton cloths, machines of various kinds, implements, tools, metals and metal wares, leather and leather goods, oils, fats, wax, pitch, mineral oils, stones, bricks, glass and glassware, paper, fruits, and seeds.

Inasmuch as the last harvest was a good one, Bulgaria was able to buy more and better goods than would otherwise have been possible. While the textiles purchased in 1900 were worth $2,566,000, in 1901, $4,938,870, and in 1902, $5,500,500, the purchases of textiles in 1903 amounted to $5,930,311. Most of these goods go into distribution via Varna, where a large number of wholesale dealers are doing business with the retailers in the interior. Most of these men are reliable and pay cash, seldom asking credit. It is best to do business through them. As a rule the goods are sold f. o. b. Varna, against cash minus discount, or on six months' draft. The countries participating in this trade are, besides those named above, Italy, Switzerland, Russia, and Holland. England led all countries, with $2,219,500, or nearly half of the entire amount.

England's success is attributed to the large number of patterns displayed. Hence, however hard the houses of other lands may labor to oust the English dealer, his success, if ever attained, is only temporary. Another factor in England's favor is the presence of Varna wholesale merchants in the English markets, particularly at Manchester. These men, familiar with Oriental tastes, are able to aid English designers. Oftentimes these people are able to arrange for a monopoly of a certain line. Indeed, they often suggest the pattern for this purpose. In the case of goods that are easily imitated, however popular, they are soon run out by the almost universal copying.

In recent years Italy has shown remarkable success along the lines once looked upon as exclusively English. The marvelous activity noticeable in Italian industry, added to cheap labor, is responsible for this success. Italian salesmen are covering every inch of the country. They study the markets, methods of selling, etc., and the tastes of the people.

The German trade is far from what it might be. Before it can be much better, traveling salesmen will have to emulate English and Italian methods.

FOREIGN TRADE OF FRANCE IN 1903 AND 1904.

The following statistics, covering the foreign commerce of France for the first four months of 1903 and 1904, are compiled from the Revue de Commerce Exterieur of June 4:

During the first four months of 1904 the imports of materials necessary to industry were $6,272,500 less than for the same period in 1903, while alimentary products show an increase of $579,000, and manufactured goods an increase of $221,950, as compared with the same classes of imports during the first four months of 1903.

The following statements show French imports and exports from and to the principal countries during the period under consideration:

Imports into France during the first four months of 1903 and 1904.

Country.	First four months of—		Increase (+) or decrease (−).
	1903	1904	
United States	$47,400,800	$38,252,600	−$9,148,200
United Kingdom	38,040,300	36,940,200	− 1,100,100
Germany	27,328,800	27,251,600	− 77,200
Argentina	24,935,600	23,700,400	− 1,235,200
Belgium	20,052,700	19,049,100	− 1,003,600
Algeria	(a)	16,289,200	+16,289,200
Russia	17,620,900	13,317,000	− 4,303,900
Spain	9,727,200	11,560,700	+ 1,833,500
Italy	10,865,900	10,550,600	− 315,300
Switzerland	6,735,700	6,716,400	− 19,300
Turkey	6,542,700	6,581,300	+ 38,600
Brazil	5,288,200	4,882,900	− 405,300
Austria-Hungary	4,612,700	4,130,200	− 482,500
All other countries	104,015,999	93,642,959	−10,373,040
Total	323,167,499	312,865,159	−10,302,340

[a] Entered with "All other countries."

The foregoing statement shows a decrease in the imports of France from nearly every country, the exceptions, leaving Algeria out of the question, being Spain and Turkey, and the increase in the imports from the latter is not of significant importance. The increase in the imports from Spain was due to the large purchase of Spanish wines. The imports from the United States, while greater than those from any other country, show a decrease of $9,148,200 from those of 1903. The other countries experiencing greatest falling off were, in order, Russia, Argentina, the United Kingdom, Belgium, etc.

Exports of France during the first four months of 1903 and 1904.

Country.	First four months of—		Increase (+) or decrease (—).
	1903	1904	
United Kingdon	$78,801,900	$77,991,300	— $810,600
Belgium	39,603,600	41,823,600	+ 2,220,000
Germany	33,369,700	37,133,200	+ 3,763,500
Algeria	(a)	19,628,100	+19,628,100
United States	18,122,700	18,180,600	+ 57,900
Switzerland	14,822,400	15,826,000	+ 1,003,600
Italy	10,769,400	11,194,000	+ 424,600
Spain	8,414,800	6,735,700	— 1,679,100
Argentina	3,300,300	4,554,800	+ 1,254,500
Brazil	2,412,500	3,126,600	+ 714,100
Turkey	2,373,900	2,914,300	+ 540,400
Russia	2,007,200	2,663,400	+ 656,200
Austria-Hungary	1,852,800	1,814,200	— 38,600
All other countries	54,288,970	35,731,134	—18,557,836
Total	270,140,170	279,316,934	+ 9,176,764

a Entered with "All other countries."

FOREIGN COMMERCE OF FRANCE.

(*From United States Consul Haynes, Rouen, France.*)

Statistics of the commerce of France with its colonies and other countries for the first five months of this year have just been published, and are here given with similar statistics for 1903.

Imports of France during the first five months of 1903 and 1904.

Articles.	First five months of—	
	1903	1904
Food stuffs	$65,543,958	$65,855,653
Materials of industry	269,701,095	245,553,514
Manufactured goods	65,153,905	67,518,190
Total	400,398,958	378,927,357

Exports of France during the first five months of 1903 and 1904.

Articles.	First five months of—	
	1903	1904
Food stuffs	$48,505,918	$50,084,851
Materials of industry	94,231,478	98,654,459
Manufactured goods	172,254,623	173,544,828
Total	314,992,019	322,284,138

THORNWELL HAYNES, *Consul.*

ROUEN, FRANCE, *June 15, 1904.*

FRENCH BUDGET FOR 1904.

(*From United States Commercial Agent Griffin, Limoges, France.*)

A recapitulation of all the expenditures carried in the national budget for 1904, and for comparison, those of 1894, will be found below:

French national appropriations for 1894 and 1904.

Item.	1894	1904	Differences.
Public debt, pensions, internal revenues, monopolies, and reimbursements	$318,720,200	$332,674,100	+$13,953,900
National defense and colonies	193,733,400	211,798,200	+ 18,064,800
Public instruction and beaux-arts	38,600,000	45,914,700	+ 7,314,700
Public works, commerce, industry, and agriculture	67,318,400	59,559,800	− 7,758,600
Other ministries	39,236,900	38,136,800	− 1,100,100
Total	657,608,900	688,083,600	+ 30,474,700

This shows the difficult problem before the minister of finance in France. No matter how hard he tries to reduce the national expenditures, the liabilities of the State, the protection of the external, internal, and colonial interests, the Government policy of emancipation and social assistance absorb nearly all the revenues from all sources from which the budget is raised. French statesmen have not discovered how they can curtail any of the expenditures of the Government without injuring the material and social interests of the Republic.

Walter T. Griffin, *Commercial Agent.*

Limoges, France, *May 30, 1904.*

NORMAN ASSOCIATION TO PREVENT ACCIDENTS.

(*From United States Consul Haynes, Rouen, France.*)

The Norman Association to Prevent Accidents is a humane organization, and there are many reasons why manufacturers and industrial leaders in the United States should form similar ones. If the prevention of cruelty to animals is right, the safeguarding of humanity must be much more so. In addition to the moral, there is the financial consideration that the cost of a limb or life, which would have to be settled by the payment of a certain sum to the injured or to the family of the person killed, is many times averted through the help furnished by such an organization.

The following facts concerning the Norman association, which has its headquarters in this city, were furnished me by its president, M. J. de Coën, of Rouen:

The society was formed in 1880, with 10 members and a capital of $2,000. "Until the association can reimburse the founders," read the statutes, "the capital shall draw 5 per cent interest." The association is supported by its members, who pay as follows: for spinning mills of 10,000 spindles, $20; for spinning mills of 30,000 spindles, $48; for spinning mills of 50,000 spindles, $60; for weaving mills of 100 looms, $7; for weaving mills of 300 looms, $18; for weaving mills of 500 looms, $25. In industries not classed the payment is $2 for a factory employing 1 to 10 workmen, and a larger but a proportionally decreased sum for larger establishments, up to those employing 900 to 1,000 workmen, for which the payment is $60.

In exchange for this membership fee the association sends inspectors periodically to all the mills and workshops of its members, communicates advice as to the best means to safeguard the workmen, and publishes information relative to jurisprudence in such matters. It further offers prizes to encourage the invention or designing of anything contributing to the diminution of accidents or the improvement of the hygiene of the workshop.

Several years ago the association refunded its original capital to its founders, and is at present upon a good financial basis.

THORNWELL HAYNES, *Consul.*

ROUEN, FRANCE, *June 14, 1904.*

FRAUDULENT FRENCH SARDINES.

(*From United States Consul-General Gowdy, Paris, France.*)

Attention has been called to the fact that although the product of the French sardine fisheries has fallen off considerably in the past three years the exportation of sardines from France has not diminished, and it is noticed that the quantity of sardines imported into France is almost double the quantity consumed there. During the

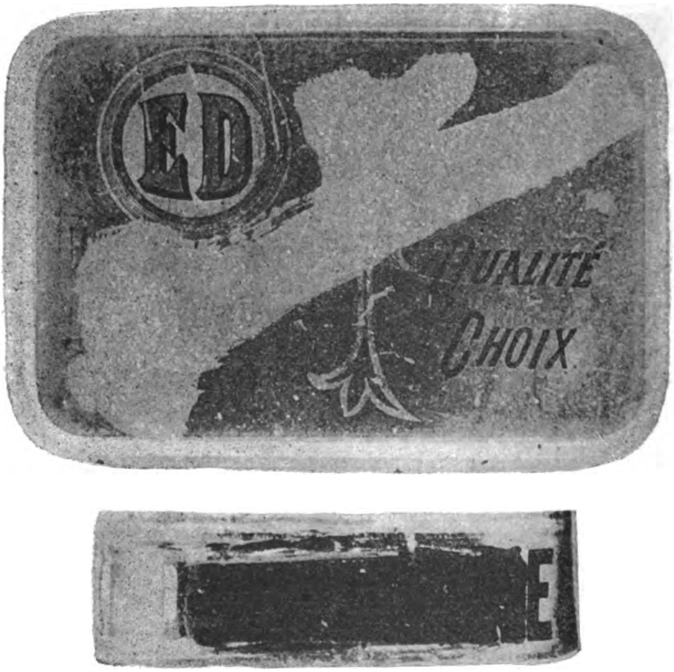

FIGURE 4.—A sardine box passing through the French custom-house.

last eleven months the importations into France reached 10,337,370 pounds, while the annual consumption is estimated at 5,511,500 pounds.

The French sardine is excellent, both fresh and preserved. It ranks high when preserved on account of the careful preparation it undergoes in this country and the quality of the oil used. The cost price to the factory of the usual-size box of French sardines (weighing about 0.71 pound) is about 12 cents, while the cost of the same-size box of Spanish or Portuguese sardines in France, freight and duty paid, is only about 6 cents.

Sardines are imported into France in two different ways:

1. In boxes of the usual size, with a deceiving mark or label, such as is shown in figures 4 and 5. On the top of the box, in this instance, the words "Sardines Françaises" are carefully covered by a thin coating of paint which is easily removed. Only the initials "E. D." and the words "Qualité Choix" are apparent when the box passes the French customs, but it becomes "E. D. Sardines Françaises, Qualité Choix" after entry; the address "Usine à Port Louis, France" on the side undergoes the same transformation. The boxes are, of course, stamped on the bottom "Produit Importé," but this indication of foreign origin is too vague to be of much value. Another method of deceiving is to print the name of the place of origin in very small letters, or to hide it in a figure printed on the label, which is in French.

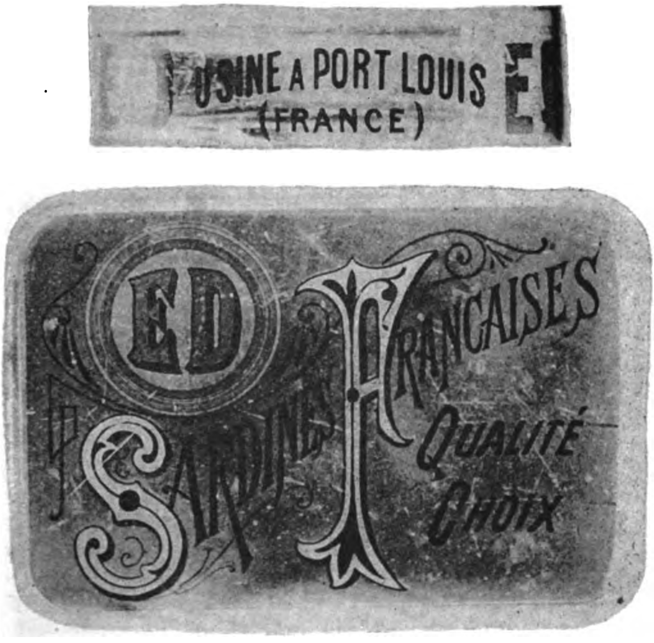

FIGURE 5.—The same box after it has passed through the custom-house.

2. Sardines are imported in large boxes and repacked in the usual-size boxes, with labels and other indications in French.

The "Chambre Syndicale" of food products of Paris has taken an active part in the pending negotiations to have a new bill passed increasing the duty on imported sardines from 25 to 50 francs per 100 kilos (from $4.825 to $9.65 for 220.46 pounds), and insisting that the name of the country of origin be stamped in the tin. The bill also prohibits the importation of sardines in bulk, as it is an easy matter to repack them in small boxes and thus evade the law. The increase of duty would not be sufficient to check importation; it would only increase the cost price of foreign sardines in France by 6 centimes (slightly over 1 cent) a box, thus raising it from 6 or 7 cents to 12 cents, which is the cost price of French sardines to the French manufacturer.

All labels on the boxes, such as "Firmin Jullien, Setubal, Portugal," with the origin in very small letters; "Société Parisienne," with the words "Produit Importé;" "Poissons Choisis" in French, "Packed in Spain" in English; and "Importé" in French, stamped on the tin, and many others, are intended to present the goods as French sardines to the majority of consumers both at home and abroad.

JOHN K. GOWDY, *Consul-General.*

PARIS, FRANCE, *June 13, 1904.*

NEW WHITE POTATO.

(From United States Consul Haynes, Rouen, France.)

The recent report from this office concerning *Solanum commersonii*, the Uruguay potato (DAILY CONSULAR REPORTS, No. 1957, March 19, 1904), has brought so many inquiries from all over the United States that I submit herewith further information.

This wild aquatic vegetable was introduced from the banks of the river Mercedes, Uruguay, and distributed in France by Professor Heckel, director of the Colonial Institute of Marseilles. In its original state the tubercle is very bitter, but Doctor Heckel pronounces the results of four years of experiments with it marvelous.

The leaves are small and slender, somewhat like those of the Irish potato, and the flowers are abundant, of a pale violet color, and very odorous, the perfume resembling that of jasmine. New stems and tubercles branch off in every direction all the year, and after one planting the plant perpetuates itself from the broken roots left in the soil.

The vegetable proper (that is, the tubercle) weighs from 1 to 2½ pounds, and has a yellowish, wrinkled skin, covered with lenticels, which disappear after culture. The pulp, when cooked, has a slight greenish color. Of 25 taken by hazard and cooked with their skins on in 1901, all were very bitter; but of 25 thus taken in 1903 only 8 were very bitter, 7 bitter, 5 eatable, 3 good, and 2 farinaceous. By peeling, the number of bitter and very bitter ones were diminished by 10 to 20 per cent, while the number of good and eatable ones were increased accordingly. The roughness of the skin and the number and size of the lenticels are usually in proportion to the acridness of the tubercles. In spite of their bitter taste, animals are fond of them, especially when cooked.

In 1903, upon a farm that cultivated the *Solanum commersonii*, the severest cryptogamic maladies known made their appearance, yet 98 per cent of the tubercles of this new potato were found intact, while of the Early Rose potato only 15 per cent were good.

Planting is done toward the end of March, preferably in level ground, so as to diminish drainage. The best depth seems to be about

3 inches. The digging, which is a little more difficult than that of the Irish potato, because the numerous tubercles extend in every direction, begins when cold has arrested the growth of the plant. In the same soil the yield is greatly superior to that of the ordinary potato. The Early Rose in one instance gave 3,000 pounds to the acre, the American Marvel 3,000 pounds, and the *Solanum commersonii* 8,500 pounds.

This new vegetable does not seem to become acclimated until the second year. The size, appearance, and taste are modified more rapidly after one year.

The new potato requires humid, fresh, even marshy soil. In dry, sandy, clayey soil the yield has been 25 per cent less than in moist soil. The absence of sunlight causes a smaller yield, with smaller and inferior tubercles, and ten to fifteen days later ripening.

The foliage, refused by rabbits, is eaten by horses, cattle, and sheep. The flowers, which make their appearance about a month after the plant shows above the soil, continue to be very abundant until the harvest. A rude attempt to extract the perfume has furnished an exquisite, aromatic, very persistent, but faint jasmine odor. In the fruit this perfume is so strong that when specimens were placed in an artificially heated room to dry, the room was uninhabitable for the fifteen days they were there.

There are three varieties of *Solanum commersonii*, characterized by the color of the skin—the yellow, the rose, and the violet. The last, which is the best for human consumption, presents the following characteristics: Enormous and uninterrupted production, absolute immunity from cryptogamic maladies, delicious flavor (much appreciated by animals), adaptability to moist soil, and easy culture.

THORNWELL HAYNES, *Consul*.

ROUEN, FRANCE, *June 15, 1904*.

GERMANY'S FOREIGN TRADE IN 1904.

(*From United States Consul Kehl, Stettin, Germany.*)

Official statistics of Germany's exports and imports for the first four months of 1904, compared with those for the same months of 1903, show an increase in both exports and imports.

The imports during the period mentioned amounted to 14,198,175 tons, or 756,989 tons more than those for the same period of 1903, and 2,038,829 tons more than those for the first four months of 1902. Of the imports, the group of "earths, stones, minerals, and precious metals" shows an increase of 520,417 tons; the group "wood and wooden wares" an increase of 216,341 tons. A decrease of 145,209 tons is shown in the imports of grains.

The exports for the first four months of 1904 amounted to 12,478,163 tons, being 419,189 tons more than those for the same period of 1903, and of 2,313,867 tons more than those for these months in 1902. Articles of manufacture, in general, are credited with increased exports. Coals show an increase of 531,189 tons over 1903, and a very much larger increase over 1902. As compared with the first four months of 1903 the following show decreases: Iron and iron ware, 275,262 tons; food products, 105,232 tons, occurring chiefly in raw sugar and spirits.

The trade of Germany in grain is shown by the following figures:

Trade of Germany in grain.

Grain.	Imports.		Exports.	
	1903	1904	1903	1904
	Metric tons.	*Metric tons.*	*Metric tons.*	*Metric tons.*
Wheat	477,126	548,908	57,164	45,713
Rye	244,810	149,157	66,419	97,219
Oats	163,980	89,910	27,915	70,577
Barley	413,638	387,250	7,797	8,820

It will be noticed that the import of wheat for the period in question was larger than for the same period in 1903, while the export was smaller. The import of wheat from the United States for the first four months of this year amounted to only about one-half of that during the same period of 1903. Russia, during the first four months of this year, doubled her export of wheat to Germany during the same period of 1903.

The import of rye decreased, while the export increased—changes just the reverse of those in the wheat trade. The figures covering oats show a heavy decrease in imports and a heavy increase in exports. This is explained by the fact that on January 1, 1904, Germany was in possession of a heavy surplus of imported oats.

JOHN E. KEHL, *Consul.*

STETTIN, GERMANY, *June 7, 1904.*

INCREASED EXPORTS OF MANUFACTURED GOODS TO GERMANY.

(*From United States Consul Harris, Mannheim, Germany, June 8, 1904.*)

A leading article which recently appeared in one of the prominent daily newspapers of the Mannheim consular district may have some interest to our manufacturers. It purports to give some statistical information as to the recent increase of certain exports from the United States to Germany, and points out that the increase in imports of lumber is traceable directly to the United States consular service in south Germany. The article is as follows:

> The reduced demand in the home market of the United States has tended to stimulate the export trade of that country. German manufacture is feeling the effect of this competition not only in the foreign markets into which it enters, but also in the German home market itself. There is a considerable list of industries which are exposed to American competition to a greater degree than during former years.
>
> The American exportation of iron tubing especially is noticeable. In the first four months of this year 2,565 tons of rolled and other wrought-iron tubing was exported to Germany, as against 2,115 tons in the same period of the year before. For the lighter articles of iron manufacture this competition is not especially noticeable, although there has been a not insignificant increase over 1903 in the American exports of knives, shears, and other edged tools.
>
> In the machine industry the influence of this increase in American export is much more keenly felt. In tools, for example, the imports to Germany from the United States increased from 304 tons in the first four months of last year to 693 tons in the first four months of the current year. Especially has there been a marked increase in the importation of machines for cutting and boring metals, of electrical machinery, sewing machines, bicycles, typewriters, and counting machines.
>
> The imports of agricultural machinery rose from 1,839 tons in the first four months of 1903 to 2,183 tons in the same months of this year. Figures show that the num-

ber of tons of locomotives, traction engines, and motor cars has materially increased during the present year. Products of chemical manufacture, illuminating oils, and fats likewise are coming into the German market in greater quantities than during last year; so also the products of glass and paper manufacture.

Most worthy of attention, however, is the American export of products of the lumber industry. Not long ago an American consul who holds a position in south Germany urged the American lumber manufacturers to give attention to the export of their product to Germany. In the report of the consul, made as it clearly was from the standpoint of a thorough knowledge of the market conditions, were pointed out the chances for trade in Germany in many kinds of lumber.

German import figures already clearly show the effect of this suggestion. In the first four months of this year, for example, the importation of certain kinds of lumber has greatly increased. Germany during this time increased her imports from the United States of dressed lumber for building purposes, rough lumber, lumber for cabinetmakers, turners, wheelwrights, and coopers, oak staves, fine woodenware, furniture, and parts of furniture from soft wood. Basket-making materials were also imported in increasing quantities. It is of importance to note that the relative increase in the import of leather products has remained behind the increase in the import of other products.

HEATON W. HARRIS, *Consul.*

MANNHEIM, GERMANY, *June 8, 1904.*

GERMAN EXPORT OF BICYCLES AND SEWING MACHINES.

(*From United States Consul-General Cole, Dresden, Germany.*)

During the first boom of the bicycle industry, and even within the early part of the last decade, American bicycles reigned supreme in many markets and challenged competition. A number of years ago American wheels flooded the German Empire. Then came a check, and step by step the German bicycle began the process of crowding out at home. Soon also foreign markets opened up to German wheels. So complete was this reversal in the bicycle trade that in 1903 Germany exported more than twice as many bicycles as the United States.

The following statistics of the export in this line for the last three years well demonstrates the development of the German bicycle industry:

Exports of bicycles from Germany and the United States, 1901–1903.

Country of origin.	1901	1902	1903
Germany	$2,927,400	$3,451,000	$4,617,200
United States	2,594,200	2,570,400	2,094,400

The comparative importance of the sewing machine export of these two countries for the last three years is shown by the following figures:

Exports of sewing machines from Germany and the United States, 1901–1903.

Country of origin.	1901	1902	1903
Germany	$4,998,000	$5,474,000	$6,664,000
United States	3,736,600	4,617,000	5,330,200

CHAS. L. COLE, *Consul-General.*

DRESDEN, GERMANY, *April 16, 1904.*

GERMAN TRADE NOTES.

(*From United States Consul Warner, Leipzig, Germany.*)

Leipzig company to manufacture automobiles.—The Polyphonmusikwerke of Wahren, near Leipzig, a joint stock company, which is the owner of the Regina Music Box Company of New York, has decided to manufacture automobiles, in conjunction with the construction of music boxes, sewing machines, etc., which it is now manufacturing. The company proposes—at first, at any rate—to manufacture only 5-horsepower automobiles for city use. As parts of these machines will be bought it is possible that American manufacturers of automobile parts may be able to sell to this company.

New china factory for Saxony.—A limited liability company has just been formed at Freiberg, Saxony, a city of 31,200 inhabitants, for the purpose of establishing a china factory at that place. The work upon the principal buildings of this factory, which will have a capital of 550,000 marks ($130,900), will be commenced within the next few weeks.

Unsatisfactory condition of the basket industry.—In spite of the fact that the indications are that 1904 will be a good year for berries, the basket industry, which is, to some extent at any rate, dependent upon the berry crop, can not be said to be flourishing. For several years past wicker goods have ceased to be exported in the same quantities as formerly. Again, basket making, which is almost entirely a "house industry," is experiencing many hardships because of unsatisfactory prices and the scarcity of raw materials. It is possible that American woods, such as willow and hemlock, as well as wicker, could be profitably imported into Germany.

Decrease in the number of breweries.—In the year 1882 there were 10,921 breweries in Germany, while in 1901, although the production of beer increased, the number of breweries decreased to 6,674. Since 1901 the decrease in the number has been even more marked. The indications are that brewing is an occupation which it is more profitable to conduct on a large than a small scale. The internal-revenue commission of the German diet is now endeavoring to frame a law which will protect small brewers against large ones. This may make it possible for the small brewer to continue to do business in spite of competition.

Germany a market for American rice.—The statement has recently been made by an English firm that they were no longer able to ship Indian rice to Cuba because they could not compete with the rice growers of Texas and other Southern States. The first five months of 1904 have seen large quantities of rice imported into Germany, all of which was received from India or Japan. If American rice growers can compete with Indian in the island of Cuba they should make an effort to do the same thing in other countries. Germany reexports large quantities of the rice which she imports after it has been shelled and prepared. She is making very large shipments to South American countries—to the Argentine Republic in particular.

Germany a market for athletic goods.—Athletic sports, to which only a few years ago little attention was paid in Germany, are now being indulged in by very large numbers. Tennis and football are perhaps more popular than in the United States. Athletic goods of all kinds, especially footballs, tennis balls, rackets, and shoes, and golf balls and clubs, are being imported into Germany from England in considerable quantities. The American manufacturer of sporting goods has perhaps never made an effort to enter upon an export business. The possibility of selling quantities of goods to Germany and other European countries would appear to be worth looking into.

BRAINARD H. WARNER, Jr., *Consul.*

LEIPZIG, GERMANY, *June 7, 1904.*

GERMAN CHEMICAL INDUSTRY.

(*From United States Consul Harris, Mannheim, Germany.*)

The recent annual meeting of the Association of German Chemists held at Mannheim led to the publication of interesting statistical information as to the relative importance of chemical manufacture in Germany and its development in this particular locality.

It is stated that in 1897 the total value of the more important manufactured products of Germany was about $2,120,000,000. At the top of the list stood the products of the iron and mining industry, with a value of nearly $840,000,000. Next came textile manufactures, whose value in round numbers was $650,000,000. This was followed by chemical manufactures with a total value of about $226,000,000.

Including with chemical products proper those of the rubber, gutta-percha, celluloid, paper, and wood pulp factories, the total output in 1897 is stated to have been approximately $256,000,000. In 1903 the total production of the German chemical factories, using the term in its narrower sense, was estimated at $321,000,000.

This industry has shown a marked tendency in Germany to concentrate in certain localities without special reference to the sources of raw material. The most important centers are the Barmen-Elberfeld region, Frankfort on the Main and its environs, and the Mannheim-Ludwigshafen district, which includes the two towns named, separated only by the Rhine.

In the variety of its products and the magnitude of some of its undertakings, the last-named district leads all the others. In it are located at present 73 factories for the manufacture of chemicals. Of these, 37 are to be reckoned as important, the remainder being small. Eleven of the 37 are located at Ludwigshafen and 26 are at Mannheim. The 73 factories employ a total of 15,325 workmen; the total population in the two cities dependent upon this branch of manufacturing is not far from 55,000.

As to character of products, the factories group themselves somewhat as follows:

1. Factories for the manufacture of inorganic products, acids, salts, fertilizers, etc. (13 factories).

2. Factories for the manufacture of coal-tar products, oils, fats, varnishes, etc. (13 factories). Among these is included the Badische Anilin and Soda Fabrik, the largest of its kind in the world, employing now 7,800 workmen, besides about 1,000 chemists and office employees.

3. Rubber, celluloid, and wood pulp factories. This group includes

the largest wood-pulp factory and the largest celluloid factory of Germany, the two factories employing somewhat more than 3,000 workmen.

The value of the present yearly output of the several factories of the two cities is estimated at $32,000,000.

H. W. HARRIS, *Consul.*

MANNHEIM, GERMANY, *June 9, 1904.*

SEA TRAFFIC OF HAMBURG, ANTWERP, AND OTHER EUROPEAN PORTS.

Schweizerisches Handelsamtsblatt, in its issue of May 30, 1904, says:

> The Deutsche Reichsanzeiger, in discussing the question of Antwerp possibly becoming a greater seaport than Hamburg, points out the fact that the number of Belgian ships trafficking with Antwerp is not greater than the number of German ships doing business with Hamburg; that Antwerp is chiefly a starting point or point of call for foreign vessels, and that a large number of vessels which touch at Antwerp are from Hamburg, Bremen, or Liverpool. It is also further shown that the tonnage of ships going in and out does not signify a great deal commercially, if not accompanied by export and import tables. The twice-counted tonnage of a Hamburg steamer for Antwerp may signify only a small consignment, but a single billing for Hamburg may include many kinds of wares.
>
> This fact is shown by statistics published by the Antwerp Board of Trade. In 1902 there entered Antwerp 5,718 ships, with a net tonnage of 8,400,000 tons, and Hamburg 13,297 ships, with 8,700,000 tons net. Imports at Antwerp for 1902 were 8,580,000 tons, valued at $343,154,000; at Hamburg they were 14,960,000 tons, worth $908,837,000. Exports at Antwerp were 6,300,000 tons, valued at $316,906,000; at Hamburg, 8,400,000 tons, worth $798,827,000. Bremen, with one-half the tonnage of Antwerp, almost equals her in value of exports and imports. It is interesting also to compare London with Hamburg. The tonnage of ships entering and leaving London in 1902 was 10,200,000 tons, the imports being valued at $808,477,000 and the exports at $451,813,000. Liverpool had a total tonnage of 6,800,000 tons, and imports were valued at $613,740,000 and exports at $524,960,000.

CALCAREOUS BRICKS IN GERMANY.

(*From United States Consul Muench, Plauen, Germany.*)

There are as yet no factories for the production of sand-lime bricks within the limits of this district, though many have been erected in Germany within the past few years. There does not seem to have been uniform success in the production of sand-lime bricks in Germany. In a recent number of the Thonindustrie-Zeitung reasons for this nonsuccess are freely discussed, and may be summarized as follows:

So many plants have been suddenly erected that bad results have grown out of the lack of proper experience in handling, rather than out of defective equipment. The main causes for defective products are inexperience in slacking lime and in mixing the mortar. Good white lime and clean, sharp sand are necessary for good results. The product is rarely spoiled in the mere pressing and drying. Naturally that brick will be best which is pressed the hardest, but the customary presses are entirely adequate; hence, the two reasons above assigned alone remain. In handling sand-lime bricks one frequently finds in them clods of clay the size of a filbert that naturally destroy their value, which depends upon so perfect a mixture that no lumps remain and every grain of sand has its coating of lime. Imperfectly slacked lime is even more detrimental. The process of slacking greatly increases the volume of the article, and if insufficient water be added in the process, absorption of moisture from the atmosphere takes place after the brick is made, expanding it and causing seams or cracks in it. Such cracks may be too small for ordinary detection, yet the defect is nevertheless a serious one. It is best to use in slacking sufficient water to produce a soft, mushy powder, damp enough to admit of balling, but the plan of allowing the mixture to rest in the bed for at least twenty-four hours, instead of at once feeding it to the press, is the safest. Little differences in composition are thus equalized and the mixture becomes more pliable and plastic.

HUGO MUENCH, *Consul.*

PLAUEN, GERMANY, *June 11, 1904.*

GERMAN ASPARAGUS CULTURE.

(From United States Consul Harris, Mannheim, Germany.)

The raising of asparagus for export, as well as for domestic use, is an industry of considerable importance in parts of Germany. It is confined chiefly to certain localities of North Germany and parts of Baden. In Baden much attention is given to the industry, and the asparagus is said to be superior in quality to that grown in other parts of the Empire.

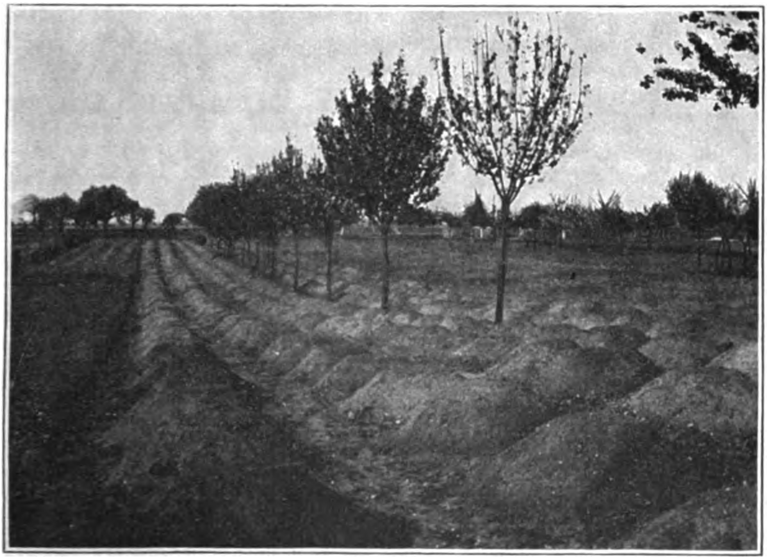

FIGURE 6.—Photograph showing the manner in which the ground is hilled up around the plants in German asparagus culture.

The soil in which asparagus is raised in Baden is the sandy loam common in the upper Rhine Valley. If well manured, this soil also produces good crops of potatoes, sugar beets, hops, and cereals.

For asparagus raising the land is first very thoroughly manured and the roots are planted at intervals of from 4 to 5 feet in rows about the same distance apart. For the first three or four years no crop is harvested; the land is kept clear of weeds and well cultivated, and is fertilized with stable manure in preference to commercial fertilizers, although these are used to some extent. During these three or four years the ground is kept hilled up around the plants with a hoe, and the shoots are cut back until a considerable bunch of strong roots forms at each hill with fibers running in every direction, meeting those from adjoining hills.

A fair crop can generally be harvested the fourth year. As soon as the ground is in condition to work in the spring the process of hilling up the earth around each bunch of plants begins. This is done with hoes, and each row (see figure) now shows a succession of small mounds from 10 to 14 inches high, with a base a yard or more in diameter and with the top flattened to a surface of perhaps half this diameter.

In the first warm days in April the new shoots begin to appear, just breaking through the top or sides of these mounds. A long knife is run into the soft, mellow earth of the mounds and these shoots are cut off from 5 to 8 inches below the surface. The shoots are entirely white except at the tops, where they show a slight trace of color. They are tender for the most part throughout their lengths and are finely flavored. These shoots are somewhat larger than those commonly seen in the United States, being generally from one-half to three-eighths of an inch in diameter.

The shoots are generally sold in the local market in pound bunches. For the first few days the crop retails at from 15 to 20 cents a pound, but drops to 10 or 12 cents as the season advances.

The asparagus season in this consular district generally opens during the first or second week in April and continues until the middle of June or the first of July. The quality is apt to be inferior after the middle of the season, though the growers cultivate for the late as well as for the early market.

The quantity of cuttings taken from each hill or mound during a season varies much with the weather, the quality of the soil, and other factors. It is reckoned at from 2 to 3 or 4 pounds.

An asparagus field is supposed to be at its best from eight to twelve years after planting. From that time on the shoots are apt to be less tender, though they may not decrease in size or quantity. Replanting of the field is thought to be advisable after the twelfth year, though many tracts in this locality are said to have remained without replanting from twenty to twenty-five or even thirty years.

As land on which asparagus is grown is worked mainly by hand and requires heavy manuring each year, the crop is said to require considerably more labor than the raising of potatoes. It yields, however, a somewhat better income, one year being taken with another. The crop is reasonably certain and always brings a fair price. Canning establishments in this consular district buy large quantities of asparagus and generally pay fair prices. The bulk of the crop, however, is sold at Mannheim and other near-by cities for immediate consumption.

The high esteem in which this product is held by Americans living or traveling abroad would suggest that its cultivation in the neighborhood of many of our large cities might be greatly increased, especially in localities where a loose sandy soil exists.

Inquiries for further information on the subject, if addressed to this consulate, will receive such attention as other duties will permit.

H. W. HARRIS, *Consul.*

MANNHEIM, GERMANY, *June 22, 1904.*

ZITTAU TECHNICAL INSTITUTE.

(*From United States Consul Pike, Zittau, Germany.*)

There can be no doubt that industrial education has become a matter of great importance and a theme that is engaging the serious attention of all progressive countries. It is a new and live element that enters into all discussions of industrial problems and trade development. The highest authorities attribute the wonderful industrial growth of some nations largely to the system of training in technical colleges and trade schools which produces a nation of experts. So essential is such training considered to trade development of modern times that all governments are now regarding the subject with grave concern.

The recent founding of a $3,000,000 trade school in Massachusetts, and the general consideration given the subject of technical education throughout the United States, makes a treatment of this subject pertinent and timely. There is probably no country in the world where the system of trade schools and technical education has reached such a stage of perfection and is so generously supported as in Germany.

While there are hundreds of technical schools in Germany, covering every branch of trade and profession, there are but two or three of the university character of the Zittau Höhere Webschule, and of these, it can be safely stated, none takes a higher rank than the Zittau institute.

It is well to observe that in this consular district municipalities, as well as the Government, are very energetic in providing for industrial schools. They do this in order to give manufacturers and tradesmen a chance to acquire a thorough technical knowledge of their respective branches of trade.

There is hardly any trade of importance that has not its school. In this consular district one finds special industrial and industrial continuation schools, trade schools, engineering and architectural schools, and weaving schools. The Zittau Höhere Webschule, however, deserves special recognition. The whole of the Upper-Lausitz being extensively engaged in the textile trade, the building of a higher weaving school in the district was a matter of great importance. There are other and older weaving schools in this district, but their purpose generally is simply to meet the requirements of local industries, whereas the Zittau Höhere Webschule was established with the purpose of meeting the requirements of all branches of the textile trade.

The founding of trade schools in Saxony, and generally throughout Germany, is not a purely State affair. Sometimes the city or town establishes the school through the instrumentality of the board of trade or the chamber of commerce. The Government often unites with the tradespeople in the building and upholding of a school. In this way the Zittau institute was founded by the State, city, and tradespeople, and was erected in the year 1898. The cost of the building and machinery was about $71,400, and the school is maintained as follows: The government of Saxony grants yearly $2,380, the chamber of commerce and board of trade $1,190, and the city provides whatever deficit there may be. The current expenses per annum are about $8,330.

The purpose of the institute is to produce manufacturers, superintendents, managers, overseers, or designers by means of practical and theoretical instruction. There are courses for buyers and salesmen of textiles wherein these obtain a pretty thorough knowledge of the different processes of manufacturing, as well as of yarns and the finished cloths.

Instruction is given in three classes: (1) a day class for intending manufacturers, managers, buyers and salesmen of textiles; (2) a day class for cloth designers, male and female; and (3) an evening class for clerks, apprentices, weavers, etc. All persons over 15 years of age who have a good school record are eligible to enter the institute. The ages range from 17 to 50 years, and students are registered from all parts of Germany, Austria-Hungary, Sweden, Russia, Belgium, and other countries.

The tuition per term is as follows: class 1, $23.80; class 2, $11.90; class 3, $1.19. Foreigners are charged double these rates. The complete courses are arranged to extend as follows: class 1, three terms, or one and one-half years; class 2, four terms, or two years; class 3, one year. Students who pass good examinations get a special recommendation, and in order to stimulate study, prizes are given at the end of each term. Classes 1 and 2 have each forty hours of instruction weekly, and class 3 has seven hours.

The chief subjects are cloth construction in plain and fancy weaves, drawing, designing, sampling, yarn and cloth testing, spinning, practical hand- and power-loom weaving, textile machinery, preparing and dyeing and finishing machinery. Bookkeeping and the English language are optional subjects.

The institute is furnished with all kinds of apparatus and instruments, and the weaving shed contains 42 different kinds of power looms, besides 18 hand looms, which the students operate daily. From the beginning the institute was furnished with the most advanced machinery, and a reserve fund is provided for the purpose of purchasing all the latest improvements.

A large supply of samples of specialties is kept to show pupils the designs in finished articles. Painting of natural flowers and sketching from nature are taught to form the groundwork of designing. For this department the Government appropriates $238 each year for the purchase of rare and specially well-designed articles from different countries. A library of practical works is at the disposal of pupils, and a collection of patent drawings and materials is kept for their instruction.

Up to the present time the school has been very successful, and was awarded the first prize, viz, a state medal, at the Oberlausitzer Exposition in the year 1902. It is under the able management of Dr. Ing. Desiderius Schatz, a Hungarian, who took his diploma as a mechanical engineer in Zürich, and was the first in the textile industry to receive the degree of doctor. He has advanced from being assistant at the Technical High School in Dresden for textile industry, and teacher in the High Weaving School in Berlin, and superintendent of the technical department of the Königliche Centralstelle for the textile industry in Berlin.

William J. Pike, *Consul.*

Zittau, Germany, *May 3, 1904.*

COCOANUT, PALM, AND RAPE-SEED OILS IN THE NETHERLANDS.

(*From United States Consul-General Listoe, Rotterdam, Netherlands.*)

RAPE-SEED OIL.

Rape-seed oil is manufactured in the Netherlands to a limited extent. The factories are situated along the river Zaan in the province of North Holland and in the towns of Zwyndrecht and Dordrecht in the province of South Holland. There is no statistical information available with regard to the output of the factories, nor can any information be obtained from manufacturers with reference to the modes of manufacture. For several weeks I have been trying to obtain the desired information, and have applied for information to some twenty-five manufacturers and merchants directly interested in rape seed and rape-seed oil and an equal number of people indirectly interested, but none have been found willing to provide any tangible data whatever. As a sample of the replies received to some written inquiries, I quote here a translation of a letter received from Messrs. I. Vliegenthart & Sons, rape-seed oil manufacturers, of Zwyndrecht. under date of April 30 last, viz:

> In polite reply to your esteemed favor of the 18th instant, I beg to inform you that an answer to your inquiries in order to be trustworthy would have to be so extensive that we can not give it at present. Another objection we have to it is—and we consider this very important—that a communication regarding our method of manufacture, which is regulated to fill the needs of the Netherlands, would enable others to provide for these needs, and we would thereby be favoring our competitors.
>
> Information which so closely affects the vitality of our business it appears to us can only be supplied in very special cases—for instance, when similar information is furnished us.

One of the principal butterine manufacturers of the Netherlands, who is well acquainted with the rape-seed oil manufacturers, tried his best to obtain the desired data for me, but he also failed in this. He stated to me "that the parties concerned in the manufacture of rape-seed oil were loath to part with any description of manufacture of the article. Manufacturers claim that the details of the method of manufacture of the product are contained in various foreign patents (there are no patents in the Netherlands), and that no one patent contains the complete method, which is the secret of the manufacturers, which they say it is impossible to part with."

A prominent firm of Rotterdam commission merchants informed me that rape seed is principally a product of Russia, Poland, the countries on the Black Sea, and British India. The quality of the seed and the percentage of oil therein contained vary very much. Amsterdam is a market for the seed and oil. The oil is difficult to extract; the seed is first rolled to break it, then crushed by running millstones, whereupon it is heated and pressed by hydraulic power.

The imports for consumption of rape-seed oil into the Netherlands, principally from Belgium, France, and Germany, were 2,175,800 pounds, 1,049,400 pounds, and 1,507,000 pounds, in 1901, 1902, and 1903, respectively.

The exports of Dutch rape oil, principally to Belgium, Great Britain, Germany, and Surinam, amounted to 684,200 pounds, 767,800 pounds, and 611,600 pounds in 1901, 1902, and 1903, respectively.

The value of rape-seed oil exported from this consular district, Rotterdam, to the United States during the fiscal year ended June 30, 1902, was $2,743, and during the fiscal year ended June 30, 1903, $2,076. Most of this rape-seed oil was destined to be used in churches. As the article is not enumerated in the declared exports from Amsterdam, the above is probably the value of the total rape-seed oil export from the Netherlands to the United States.

The average price of rape-seed oil during the last ten years has been $10.95 for 100 kilograms (220 pounds), net, exclusive of barrels, which the buyer must furnish when purchasing from local manufacturers. The lowest price was $8.60, and the highest price $14.60.

Foreign rape-seed oil is purchased inclusive of barrels, but roughly calculated the duty to be paid by the purchaser balances the cost of the barrels. The duty is 22 cents on 100 kilograms (220 pounds). The seller pays for the barrels.

The imports for consumption in the Netherlands of rape and cabbage seed, which are not specified separately in the Dutch Government statistics, were 938,440 bushels, 3,286,400 bushels, and 2,003,440 bushels, in 1901, 1902, and 1903, respectively. The exports during the same years were 58,687,200 pounds, 85,615,200 pounds, and 58,516,600 pounds.

The value of exports of rape seed from Rotterdam to the United States during the fiscal years ended June 30, 1901, 1902, and 1903 was $1,703, $69,383, and $88,416. The value of exports to the United States of rape seed from Amsterdam is not enumerated.

No statistics exist as to the amount of rape seed raised in the Netherlands. It is obvious therefore that the Dutch rape-seed crop is not of much importance.

PALM OIL.

Palm oil is extracted from the palm nut found in west Africa, and is shipped from Benin, Las Palmas, Lagos, Porto Novo, and Whydah. It is said that the natives treat the fruit with boiling water, thereby obtaining part of the oil, after which more oil is obtained by pressing the fruit. I have been informed that no palm oil is manufactured in the Netherlands, but that oil is crushed from palm seeds in Germany.

The imports and exports of palm oil are not separately stated in the Dutch Government statistics. It would seem that the article is not considered an important one here. The imports of palm oil into the Netherlands from Great Britain amounted to 27,142,864 pounds, 33,586,784 pounds, 22,635,648 pounds, and 31,182,818 pounds during the years 1900, 1901, 1902, and 1903, respectively.

Palm oil prices ranged in 1902 between $14.20 and $12.30 for 220 pounds, and in 1903 between $12.40 and $11.10 for 220 pounds, duty and barrels included. The duty is 22 cents on 100 kilograms (220 pounds).

The total imports of palm seed into the Netherlands (not including transit goods) amounted to 57,789,600 pounds, 56,408,000 pounds, and 54,478,600 pounds during the years 1901, 1902, and 1903, respectively. From the Kongo the imports of palm seeds were 2,154,000 pounds and 2,085,000 pounds, and from Liberia 438,000 pounds and 460,000 pounds during the years 1902 and 1903, respectively. Other imports of palm seeds reached the Netherlands from other European countries, principally from Great Britain and Germany (Hamburg).

The exports of palm seeds from the Netherlands amounted to 50,452,600 pounds, 52,498,600 pounds, and 57,043,800 pounds in 1901, 1902, and 1903, respectively.

Prices of palm seeds ranged in 1902 between $6.40 and $5.70 and in 1903 between $5.80 and $5 for 100 kilograms (220 pounds). There is no import duty on this article in the Netherlands.

COCOANUT OIL.

Cocoanut oil, as far as I have been able to ascertain, is not manufactured in the Netherlands, but comes principally from British India. The kernel of the cocoanut in a dried state is also exported to Europe under the name of "copra." The oil is extracted probably by steam-heating or cooking, and subsequent pressing. In Europe it is manufactured at Harburg, Germany.

The Netherlands' imports and exports of cocoanuts, copra, and cocoanut oil are not enumerated in Dutch official statistics. I have been informed, however, that the arrivals of copra in the Netherlands amounted to 800 tons in 1902, while there seem to have been no arrivals in 1903.

Cocoanut oil prices ranged in 1902 between $15.60 and $12.80 for 100 kilograms (220 pounds) and in 1903 between $13.70 and $11.40 for 100 kilograms, duty paid and inclusive of barrels. The duty on cocoanut oil in the Netherlands is 22 cents on 100 kilograms.

Copra prices ranged in 1902 between $9.60 and $7.80 for 100 kilograms (220 pounds). Copra is free from import duty in the Netherlands.

S. Listoe, *Consul-General.*

Rotterdam, Netherlands, *June 2, 1904.*

NORWEGIAN COD FISHERIES IN 1904.

(From United States Consul Cunningham, Bergen, Norway.)

The Norwegian cod fisheries have practically come to a close with a total catch of 42,774,000 fish from all the cod fisheries of Norway. From this catch about the same quantities of klipfish, stockfish, and salted and dried fish have been prepared as have been for the past two years. The season's catch has produced up to the present time about 13,050 barrels (30.8 gallons per barrel) of cod-liver oil, or more than five times the quantity produced from about the same number of fish in 1903.

The following table will show the number of codfish caught from Norwegian fisheries for the last three years and the production of prepared fish and cod-liver oil to this date (May 28) in each year:

Codfish products of Norway, 1902 to 1904.

Year.	Heads.	Hung.	Salted.	Cod-liver oil.	Train oil.	Roe.
				Gallons.	*Gallons.*	*Gallons.*
1902	41,200,000	10,800,000	29,500,000	575,000	498,000	841,000
1903	42,000,000	18,900.000	26,400,000	70,000	165,000	605,000
1904	42,800,000	14,000,000	28,000,000	392,000	179,000	622,000

Stockfish constitute the bulk of hung fish and klipfish of salted. This table can not be of great assistance in determining the quantity of the various kinds of fish prepared from the cod, but it will at least show the ratio of the entire catch which is salted.

The famous Lofoten fisheries furnish the bulk of the fish caught, it being the largest and most certain of these fisheries. However, the Capelan fisheries in Finmarken have been pretty good this season, and from these have been caught 5,200,000 heads of the above which produced 86,000 gallons of medical cod-liver oil. This, as well as the products of smaller fisheries, is included in the above table. The Capelan fisheries are more variable and less certain than any other of the periodic fisheries, because they are more frequently visited by severe storms, which prevent the catching of this fish. This year the storms have interfered very much, for the fish seemed to be in great abundance along this coast. With good weather and plenty of bait, which has been scarce, some good fishing could be expected from Finmarken still, as there are more than 3,500 boats engaged in these fisheries, and fish apparently abundant this last week.

The only secondary product which concerns the American market is that of cod liver oil. This important article of commerce, the best of which comes from the Norwegian fish, will not be in as great quantities as it was a few years ago, but this year's output is more than five times what it was in 1903. As a result of this increase the price has been gradually declining and the sales have not been very great. As yet the market is inactive, there being a belief that the quantity of the new oil will justify a further decline. Let this be as it may, it must be remembered that this is not an average yield and follows immediately a year of almost a failure. While this is a somewhat larger yield than the preceding year, yet the quantity falls far below the average of other years. The quotation at this date is about $42 per barrel.

I have had several inquiries from the United States for the names of exporters of stockfish, so, for the benefit of importers, I give a list of a few exporters of the principal products of the codfish.

EXPORTERS OF CODFISH, INCLUDING STOCKFISH, KLIPFISH, ETC.

Mowinckel & Son, Mowinckel & Co., Wollert Konow, Joachim Hansen, Jens Gran & Son, J. E. Lehmkuhl, Wm. A. Mohn, and Albert Mohn, Bergen.

EXPORTERS OF COD LIVER OIL.

Isdahl & Co. and Johan Thesen & Co., Bergen; Peder Devold and Otto S. Jervell, Aalesund; Joh. Rye Holmboe, Tromsoe; and Christian Johnsen, Christiansund.

E. S. CUNNINGHAM, *Consul.*

BERGEN, NORWAY, *May 28, 1904.*

PORTUGUESE COLONIES.

Le Mercure, of Paris, in its issue of May 29, 1904, says:

Under the title, "The Portuguese colonies, their present and future," Mr. Auguste Ribeiro has just sent forth a small volume of great value.

In it the author shows that Portugal has striven for the material and economic development of her colonies and that she has brought them to a high degree of prosperity. In the course of twenty years Portugal has constructed in her colonies

1,864 miles of railroad and 3,728 miles of telegraph. Mr. Ribeiro says that the Portuguese colonies have resources sufficient for their needs. The colonial budget estimates receipts to be $11,580,000, expenses $9,005,380. The colonies pay all government expenses and have no debts, as a great many colonies have. The total trade of the colonies has now reached the sum of $57,900,000. There are in Portugal 31 colonization companies, with a capital of $50,952,000.

The commerce of Mozambique during 1903, excepting the northern territories, under the direction of the companies, was as follows:

Lourenço Marquez	[a] $26,648,861
District of Mozambique	1,737,000
Inhambane	1,278,046
Chinde	1,025,988
Quilimane	832,023
Tete	24,125
Other localities	17,690
Total	31,563,733

Commerce in transit amounted to $16,787,719.

Angola in 1900, in spite of the crisis, had a trade amounting to $12,353,000, while that of the Portuguese Kongo reached $2,316,000.

The author does not mention St. Thomas, Macao, etc., but it is safe to say that Portugal receives one-half of their trade, amounting to $57,900,000 annually.

Guinea has liquidated her deficit by means of internal taxation.

Timor has a company with a capital of $289,500 devoted to the cultivation of rice, coffee, caoutchouc, and tobacco. There only remains Portuguese India, which could not get along without the mother country or the other colonies.

FOREIGN TRADE OF RUSSIA IN 1903.

(*From United States Consul-General Guenther, Frankfort, Germany.*)

Russia's trade across her European borders in 1903 amounted to $309,770,000 in imports and $489,131,850 in exports.

The following are the principal participants in this trade:

Foreign trade of Russia in 1903, by countries.

Countries.	Exports from Russia.	Imports into Russia.
Germany	$119,686,000	$121,385,500
Great Britain	112,270,000	57,680,000
France	39,088,500	14,471,500
Austria-Hungary	19,055,000	117,368,500
Holland	52,015,000	....
Belgium	22,402,500	....
Italy	29,200,500	....
United States	2,729,500	32,239,000

It is estimated that of the Russian exports to Holland and Belgium (consisting principally of grain) $33,990,000 worth were reshipped thence to Germany.

Russia's imports from the United States in 1902 were valued at only $19,776,000. The great increase in 1903 is owing to a larger importation of cotton and its enhanced cost, and to the increased imports of agricultural implements and machines from the United States. The 1903 importation of Russia exceeds that of 1902 in value by $38,316,000, which has its cause in Russia's good crop in 1902. The largest increase among the imports is in agricultural machines and implements, their value being $13,029,500, against but $9,373,000 for the year before.

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[a] In 1892, $1,775,600.

Russia's importation of all other machines of iron and steel in 1903 shows a decline amounting to about 25 per cent, compared with the average of the three preceding years.

Of Russian exports showing large gains in 1903 over 1902 are to be noted wheat and rye, butter and eggs, white soft sugar, naphtha, timber and lumber, and iron ore. More than half of Russia's total exports (in point of money value) consisted of grain, the exports of which (including flour and bran) amounted to $246,005,500. Butter exported was valued at $16,274,000, and eggs at $26,265,000. Last year Russia shipped abroad nearly three times the quantity of white soft sugar exported during the previous year.

The foreign trade statistics for 1903 demonstrate that Russia is increasing her exports of agricultural, mining, and forestry products, whereas her importation of articles of manufacture, excepting partly finished goods, is steadily diminishing.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *May 31, 1904.*

RUSSIAN EFFORTS TO EXPORT.

(*From Das Handels-Museum, Vienna, Austria, May 19, 1904.*)

Commercial experts connected with the Russian consulate-general in Constantinople are urging the large wholesale houses in Russia to send money to support, and samples for exhibition in, a commercial museum for Russian products to be erected in Constantinople. The object of the promoters of the museum is to make Turkish merchants familiar with the products of Russian factories. In order to do this, they ask for samples of goods, with statements of prices, qualities, etc. Some time ago the Russian minister of finance sent out a circular letter to all the leading chambers of commerce, boards of trade, etc., asking for opinions as to the measures that ought to be taken to extend Russia's export trade. The answers were practically unanimous in recommending the establishment of agencies in foreign ports in which Russian wares can be shown to prospective buyers. Some say that these agencies should be permanent and should carry a large number of articles. Others think that it would be best for each particular branch to have its own agencies. One exchange—that of Reval—urged the establishment of agencies and the appointment of traveling salesmen by each firm. It expressed the belief that this would be by far the best way to build up future trade. In connection with these efforts, an exposition of Russian goods is being planned for Königsberg. This is expected to bring a great many Russian wares to the attention of German merchants.

TRADE OF RUSSIA WITH CHINESE TURKESTAN.

(*From Nachrichten für Handel und Industrie of June 23, a German official publication corresponding to the Consular Reports of the United States.*)

The Russian consul-general at Kashgar reports that the trade of Russia with Chinese Turkestan had increased steadily up to and including the year 1901. In 1902, partly because of an earthquake in August of that year, which caused a great deal of devastation, the trade fell off. The trade of Russia with Chinese Turkestan (district of Kashgar) during the years 1882, 1892, and 1902, was as follows:

Russian exports to and imports from Kashgar district, Chinese Turkestan.

Year.	Exports to Kashgar.	Imports from Kashgar.
1882	$288,512	$412,176
1892	456,499	538,461
1902	1,055,214	978,835

Russia's exports to Kashgar consist largely of manufactured products, such as sugar, cloths and clothing, iron, matches, etc. The imports from Kashgar consist mainly of cotton cloths, felt, carpets, hides, furs, corals, fruits, raw cotton, raw silk, wool, and other articles.

IMPORTS OF FOOD PRODUCTS INTO THE UNITED KINGDOM.

Under date of June 7, 1904, United States Consul-General H. Clay Evans, London, England, transmits a statement of the imports of certain food products into the United Kingdom in 1902 and 1903, and the principal countries from which they came. The following covers the statement transmitted by the consul-general, the quantities having been reduced to American weights and measures in the Bureau of Statistics:

Imports of food products into the United Kingdom in 1902 and 1903.

Products and whence imported.	Quantities.		Products and whence imported.	Quantities.	
	1902	1903		1902	1903
Wheat:	*Bushels.*	*Bushels.*	Maize:	*Bushels.*	*Bushels.*
United States	80,850,114	45,169,404	Argentina	26,783,774	37,438,926
Russia	12,208,853	32,062,427	United States	3,950,276	37,352,022
British India	16,504,294	31,841,333	Roumania	37,183,828	8,461,936
Argentina	8,054,975	26,524,847	Russia	13,184,276	7,127,974
Canada	17,784,620	20,163,970	Canada	209,986	6,774,662
Roumania	4,403,246	5,862,690	All other countries	7,673,814	3,048,136
All other countries	11,398,055	2,886,585			
			Total	88,985,954	100,198,656
Total	151,204,157	164,511,256			
Barley:			Flour:	*Barrels.*	*Barrels.*
Russia	26,657,926	29,502,955	United States	8,704,416	9,211,634
Roumania	11,770,187	8,647,819	Canada	1,110,412	1,503,245
Turkey	9,401,879	9,783,037	All other countries	1,263,081	1,057,377
United States	7,201,211	6,152,138			
All other countries	6,327,356	10,571,814	Total	11,077,909	11,772,256
Total	61,358,559	64,657,763			
Oats:			Bacon:	*Pounds.*	*Pounds.*
Russia	27,798,907	30,857,450	United States	367,791,760	324,072,784
Roumania	5,040,601	7,527,501	Denmark	140,630,224	167,563,312
United States	3,799,509	2,055,477	Canada	51,798,544	74,507,888
Canada	1,810,758	1,216,166	Russia	3,888,752	5,147,968
All other countries	10,883,634	9,004,002	All other countries	5,737,568	6,289,704
Total	49,333,409	50,660,596	Total	569,846,848	577,581,656

Imports of food products into the United Kingdom in 1902 and 1903—Continued.

Products and whence imported.	Quantities.	
	1902	1903
Fresh beef:	*Pounds.*	*Pounds.*
United States	256,532,080	301,719,040
Argentina	103,459,776	129,047,632
All other countries	55,238,448	35,062,160
Total	415,230,304	465,828,832
Hams:		
United States	146,931,248	105,186,928
Canada	18,360,160	22,119,664
Denmark	197,466	147,616
All other countries	527,270	374,976
Total	166,016,144	127,829,184
Mutton:		
New Zealand	183,124,144	227,968,608
Argentine Republic	151,480,112	166,406,240
United States	3,897,600	4,688,656
All other countries	70,373,222	50,798,160
Total	408,875,078	449,861,664
Cocoa, raw:		
British West Indies	19,981,794	15,427,711
Portugal	13,620,197	14,087,142
Ceylon	4,846,226	5,150,646
France	4,500,525	4,512,554
Ecuador	6,016,596	3,602,951
Cocoa, raw—Cont'd.	*Pounds.*	*Pounds.*
Brazil	5,291,180	3,471,814
All other countries	3,880,846	3,751,887
Total	58,137,364	50,004,705
Cocoa, prepared:		
France	4,405,525	5,359,375
Holland	3,743,198	4,365,488
All other countries	599,630	721,850
Total	8,748,353	10,446,713
Coffee, raw:		
Brazil	31,510,192	32,917,136
Turkey	3,845,744	15,274,656
United States	13,219,360	13,125,392
All other countries	54,602,368	66,691,872
Total	103,177,664	128,009,056
Tea:		
British India—		
Bengal	151,029,404	157,908,805
Madras	5,131,643	6,122,772
Ceylon	106,108,133	94,456,252
China	16,112,942	19,897,982
Holland	9,302,028	12,635,475
United States	1,037,783	4,916,171
All other countries	4,860	4,321,974
Total	288,726,793	300,259,431

HOLLOW-BLOOM TUBE MAKING IN ENGLAND.

(*From United States Consul Halstead, Birmingham, England.*)

When I heard some time ago that a hollow bloom for tube making was being rolled in the neighborhood I was glad of the opportunity of seeing the process, and accepted the invitation of Mr. George Inshaw, the English inventor, and Mr. Hugh McDonald, an American, of St. Paul Building, New York, who had secured the option on the patents for the United States and Canada, to go out into the Black Country and see the process in actual operation.

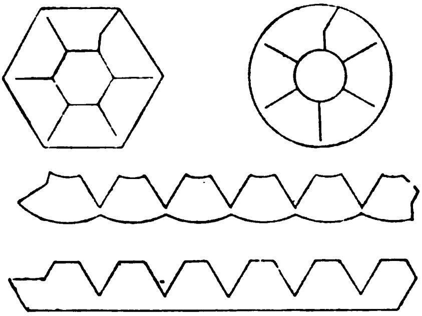

FIGURE 7.—Cross-sections of Inshaw hollow blooms.

I saw the rolling of several hollow iron blooms, saw several of these blooms welded and one of them made into pipe. The inventor's object was to produce a seamless iron or steel tube for steam, gas, or water, and all other services, and other hollow articles such as shafting, all to be of better quality and produced at less cost than when made from strip, of better quality than when spun over a mandril, equal to any tubes made from a pierced or bored bloom, and perhaps, owing to the amount of work the metal received in the rolling, of as good quality as when cold drawn.

Puddled iron balls were first formed into slabs by means of a steam hammer, and these slabs were then rolled into blocks or bars with longitudinal segmental projections connected with a thin backing or plate of metal, a cross section of which is shown in the accompanying cut, as are cross sections of the two kinds of hollow blooms which may be formed by the rolling of either of the two forms of segmental projections on the bars. In one kind the interior of the bloom is round and the outside somewhat hexagonal, in the other the interior is hexagonal and the outside of the bloom round, the latter type being made when I was present. The plates or bars, without reheating, were rolled or formed by being passed through a skelping machine, which bent the thin backing or belt of metal, bringing the longitudinal segmental projections together, thus forming long hollow blooms. These long hollow blooms are sawed into required lengths, and, while still retaining much heat not exhausted in the first process—the interior of such a roll naturally retaining heat—are put into a furnace and the heat is raised to a welding point; then they are passed through welding rolls, and, without further heating, made into tubes. The advantage in welded rolled blooms over built-up hollow blooms, made by the other process which I have referred to above, would seem to be in the fact that there is less surface for oxidation, and, contrary to the prediction of experts regarding the Inshaw bloom, the angles of the rolls when pressed together seem to push out any oxidized particles into the hollow of the bloom when the inside hexagonal type is used, and outside and away from the bloom when the outside hexagonal type is made.

To prove his claim that the steel or iron skelped piece or bloom, being welded in a thick body, is a perfect and seamless hollow bloom. and that when it is reduced to the thickness of the wall of a tube the tube so produced will stand a "pressure equal to a tube produced from a drilled bloom, or nearly four times more than a tube made from steel or iron strip," the inventor offers the following report of tests which Messrs. Tangey (Limited) a great engineering firm of Birmingham, made on "four pieces of tube sent them."

It reads as follows:

No. 1. Hickman's common steel burst at 6,720 pounds per square inch.

No. 2. Hickman's common steel stood a dead pressure of 5,600 pounds per square inch.

No. 3. Lilleshall Company's common puddled iron burst at 6,272 pounds per square inch.

No. 4. Lilleshall Company's common puddled iron stood a dead pressure of 4,480 pounds per square inch.

Mr. Inshaw claims that in welding the blooms in a thick body there is much less scale waste than when making tube from strip, because in the making of strip—often there are two outside layers of good material and a center layer of "muck"—the whole surface is raised to welding heat and then exposed to the atmosphere before being put into the welding furnace. He claims that the strip tube makers begin with a highly finished material, while he produces a finished tube in less time and with fewer heating operations than are necessary to make strip itself, and he can produce tubes of any required thickness of wall for hydraulic and other purposes where safety is a great factor; that not only does his process apply to tubes but to hollow shafting, hexagon and other nuts, hollow axles, collars, bridge and shipbuilders' ironwork, guns, projectiles, electrical trolley poles and conduits, and every other description of tubular or hollow engineering work. The general manager of one of the great ironworks in the Black Country, in a testimonial he gives, expresses the opinion that the blooms can be made at from 40 to 45 shillings ($9.73 to $10.94) less than the price of strip, and that better and stronger tubes are obtained from these hollow blooms, and that whatever waste there is takes place with a less costly material. In his comparison of the processes he states that in the strip process there is loss in weight of ends in shearing for the mill, loss of labor and fuel in filing, heating and rolling in strips when they are cooled before the next stage (that of actual tube making) is reached, that 10 per cent is lost as scrap ends when the strips are cut ready for the tube maker, who must then heat them and make them into tubes, and that this process involves much loss in scrap from the tube ends.

"Compared with Inshaw's process," he adds, "all this means loss of scrap off tube strip, extra loss on finishing tubes, fuel loss on reheating the puddled bar, fuel loss on converting the puddled bar into strip, extra loss of fuel in raising the cold strip to the temperature which Inshaw's process gives naturally. Then there are the wages of cutting down the puddled bar, the wages of heating, rolling, and cropping, with all conveyance charges, and all costs of millwork," while in the Inshaw process it is all accomplished in one heating and a wash heat and at a small labor cost.

On the other hand, one of the American strip-tube makers to whom I gave the points of the hollow-bloom method claimed that while he might begin with somewhat costly material, the rapidity, compared with that of any of the processes of making tubes from a bloom, with which he, with helpers, could turn out tubes (1,050 20-foot 2-inch tubes in ten and one-half hours being his furnace record), would make his process still more economical. He, however, had not seen the hollow-tube process, and while expert in his own line and a very intelligent man, had not taken much interest, he admitted, in other methods of tube making.

MARSHAL HALSTEAD, *Consul.*

BIRMINGHAM, ENGLAND, *June 9, 1904.*

BRITISH DEPARTMENT OF COMMERCE.

(From the Journal de St. Petersbourg, Russia, June 28, 1904.)

The British House of Commons recently discussed a proposition to convert Great Britain's existing board of trade into a "Department of Commerce," and to make the chiefship a cabinet position. A commission appointed to consider the proposed change has reported recommending it. One of the immediate results will be a very considerable addition to the salary of the chief of the board. It is now about $10,000, and the proposed salary is $25,000. Some one suggested that the secretary be a merchant. Mr. Gerald Balfour combated this idea, and said that if one followed such a line of reasoning Great Britain logically ought to have a sailor at the head of the navy and a soldier at the head of the army, an arrangement the nation has persistently refused to make. This may not be logical, but it accords with the facts. The change contemplated will lead to a reform that, according to Mr. Gerald Balfour, is very much needed and will prove of great practical value. During the discussion it was argued that in future the consuls, although entirely dependent upon the Foreign Office, ought to report directly both to the Department of State and to the Department of Commerce. The latter department will write to them direct and get direct replies. A copy of every letter and report received by the Department of Commerce will, however, have to be sent to the Department of State. Consuls will be compelled to serve for some time in the offices of the Department of Commerce for the purpose of familiarizing themselves with the work and the questions with which they will have to deal.

COMPLAINTS OF ENGLISH MANUFACTURERS.

(*From United States Consul Halstead, Birmingham, England.*)

At the last meeting of the Birmingham chamber of commerce the general purpose committee reported that freight rates from the United Kingdom to South Africa were greatly in excess of those charged for shipments from the United States. The report contained a table showing that the American rate to Cape Town and Algoa Bay for various descriptions of hardware was $3.65, while the charges of the steamship combination known as the South African Conference on goods from England ranged from $4.86 for galvanized iron to $10.34 for brass goods; and there were similar rates, favoring America, to Natal and East London. The committee expressed the opinion that British trade with South Africa was being seriously interfered with by the preferential rates given to American shippers.

The committee also gave the following list of practices which they consider are in contravention to the International Convention for the Protection of Industrial Property. In the monthly circular of the British chamber of commerce in Paris there was a paragraph stating that certain houses in Vienna, Berlin, Milan, and Brussels were exporting to France large quanties of cravats marked "London style," "Prince of Wales," "Latest novelty for gentlemen," etc., the intention being evidently to induce the French public to believe that these goods were manufactured in England. Some of them had gone so far as to stamp their goods with an exceedingly bare-faced imitation of an English rival's trade-mark, and in one case a German manufacturer had made use of the name of an English house. A member of the Birmingham chamber had made complaint to the committee that there was an importation here of glove buttons from European countries marked "English make," the contention being that this mark would apply to the gloves upon which the buttons were placed. The committee were informed that there was every reason to fear that imported glove buttons bearing the words "English make" were being placed on foreign-made gloves.

Any misrepresentation in the sale of goods as of English make when they are of foreign manufacture is a very serious matter to British manufacturers, because, though this country is the greatest exporter of manufactured goods in the world, the people of England, very generally and for patriotic reasons, purchase, as far as possible, goods of English manufacture.

MARSHAL HALSTEAD, *Consul.*

BIRMINGHAM, ENGLAND, *June 22, 1904.*

MORE HYGIENIC MEASURES FOR LONDON.

(From United States Consul-General Guenther, Frankfort, Germany.)

According to the London Daily Mail, barbers are the latest tradespeople to be threatened with "regulations" for the purpose of securing cleanliness in their craft. Certain forms of deadly bacilli are known to lurk in insanitary premises and among the implements of the careless hairdresser, and a campaign against these will probably begin before long in London.

An inquiry made by Doctor Collongridge, medical officer of health of London, has shown that in very few foreign countries and in no British colony are there in force any sanitary regulations for controlling the business of hairdresser or barber; but it is extremely probable that sooner or later regulations of this nature will be universally applied.

The medical officer remarks that, "it being advisable that the city should lead rather than follow in questions of hygienic reform," the sanitary committee are considering a scheme, pending legislation on the subject, which he believes will be satisfactory.

Doctor Collongridge has met with some success in his crusade against the pigeons, which are such a familiar and popular sight in city streets. He admits that it has been found "impossible to take any active measures for abating the evil," as the birds have no actual owners, but quietly adds that owing to the publication of this fact the numbers have been considerably reduced, "doubtless owing to housekeepers and others having captured them without fear of prosecution."

Shellfish were responsible for nine cases of enteric fever last year, and ice cream for only one. The making of ice cream is now regulated, and the good effects which have followed control are instanced in illustration of what may be accomplished in this direction.

Dealing in detail with the scandal of the hospital blankets from South Africa which were distributed over the country, Doctor Collongridge remarks that owing to the publicity given to the affair "we shall probably never again experience a repetition of such a wholesale dissemination of filthy and, in some cases, infected articles."

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *May 27, 1904.*

INCREASED BRITISH DUTY ON STEMMED LEAF TOBACCO.

(*From United States Ambassador Choate, London, England.*)

With reference to the Department's instruction of the 19th ultimo relating to a recent increase by the British Government of the duty on stemmed leaf tobacco to the equivalent of 81 cents a pound, making a difference of 6 cents a pound between the stemmed and unstemmed article, as of present interest pending the reply of the foreign office to my note addressed to Lord Lansdowne on the 30th ultimo, I have the honor to inclose herewith, for the information of the Secretary of Commerce and Labor, a copy of a letter from Messrs. Edwards, Goodwin & Co., of 27 Gradwell street, Liverpool, together with the pamphlet and letter and report to which it refers.

As soon as Lord Lansdowne's reply is received to the inquiry contained in my note mentioned above, I shall forward the same without delay.

JOSEPH H. CHOATE, *Ambassador*.

LONDON, ENGLAND, *June 9, 1904*.

LETTER FROM MESSRS. EDWARDS, GOODWIN & CO., TO AMBASSADOR CHOATE.

27 GRADWELL STREET, LIVERPOOL, *June 8, 1904*.

J. H. CHOATE, Esq.,
Ambassador United States, etc.

SIR: We beg to say that we have just received information that the Acting Secretary of State of the United States addressed an instruction to you under date of 18th ultimo with respect to the unsold stocks of stripped tobacco lying in bond in this country, requesting you to use your best endeavors to secure some fair provision of relief from the British Government.

We may mention that at the instigation of the tobacco-trade section of the Liverpool Chamber of Commerce an amendment will be moved to the finance bill in the House of Commons early next week, and that a printed pamphlet concerning it has been addressed to all the members of the House. Also we beg to hand you herein copy of our last monthly market report, which gives a faithful description of the state of business in this market at present. We may mention that we are holding considerable quantities of stripped tobacco in bond for account of citizens of the United States.

We have the honor, etc., EDWARDS, GOODWIN & CO.

MEMORIAL OF THE LIVERPOOL CHAMBER OF COMMERCE TO PARLIAMENT.

(*Referred to in Messrs. Edwards, Goodwin & Co.'s communication.*)

TOBACCO TRADE SECTION OF THE INCORPORATED
CHAMBER OF COMMERCE OF LIVERPOOL,
Liverpool, June 7, 1904.

DEAR SIR: I am directed by the tobacco trade section of this chamber to ask you kindly to peruse the inclosed pamphlet relating to the newly arranged differential duties between leaf and stripped tobacco, and I am to draw your attention to the following points, which may assist in making the position of merchants in the matter clear.

1. The average value of raw tobacco in bond is about 6d. (12 cents) per pound, and the old duty of 3s. (73 cents) per pound is six times its value.

2. Consequently the differential rate of 3d. per pound more on stripped tobacco than on leaf, whilst being a small percentage of the total duty, bears a very different proportion to the value of the raw tobacco in bond, and this difference, in the opinion of the trade, will in course of time practically drive imported strips out of consumption. The immediate application of such a differential duty, without rebate on existing unsold strips in merchants' hands (which are goods in transit between the grower and the manufacturer) will confiscate the value of those unsold strips by an amount approximating the differential rate of 3d. (6 cents) per pound without assisting the revenue in any way, besides being obviously unjust to merchants.

3. Merchants are not objecting to an increase in the tobacco duty, or to the imposition of a differential rate as between leaf and strips. All that they are asking for is that their unsold stocks of strips, imported under the uniform rate of duty on leaf and strips which has always existed, should, by means of a rebate on such unsold stocks, be allowed to be cleared from bond at the same rate as leaf, whatever that rate may be.

4. While manufacturers may recoup themselves under the change by raising the prices of their finished products, merchants who have no other customers than manufacturers have no such power of adjusting their losses.

I am directed, therefore, to express the hope that you will be able to see your way, when the finance bill comes before the House in committee, to support the following amendment placed on the House of Commons Notice Paper No. 71, June 1, 1904, page 1645, by Mr. Charles McArthur, M. P., Liverpool, who will move the same, viz:

Clause 2, page 2, line 6, at end, add:

"Provided that the said increase of 3 pence per pound in the case of stripped tobacco shall not be payable on stocks in merchants' hands unsold on April 20, 1904."

I am, yours, faithfully,

THOMAS D. BARKER, *Secretary.*

Should Mr. McArthur's amendment fail, please support the following further amendment, which will be moved by Mr. David MacIver, M. P. (Kirkdale), viz:

Clause 2, page 2, line at end, add:

"Provided that a rebate of 2 pence per pound upon clearance from bond be allowed upon the stock of stripped tobacco in merchants' hands unsold on April 20, 1904."

EDWARDS, GOODWIN & CO.'S MONTHLY TOBACCO REPORT.

(*Liverpool, May 31, 1904.*)

Amounts in Stock, Imported, Delivered, and Exported.

Description.	Virginia.		Western.		Other sorts.	Total.
	Leaf.	Strips.	Leaf.	Strips.		
	Hds. and tierces.	*Hds. and tierces.*	*Hds. and tierces.*	*Hds. and tierces.*	*Hds. and tierces.*	*Hds. and tierces.*
Stock, April 30, 1904	26,264	45,611	6,771	37,515	396	116,557
Imported in May, 1904	1,833	770	281	216	40	3,140
	28,097	46,381	7,052	37,731	436	119,697
Delivered in May, 1904	654	1,302	512	1,309	23	3,800
Stock May 31, 1904	27,443	45,079	6,540	36,422	413	115,897
Including not sampled	101	998	146	185	39	1,469
Against 1903	19,840	46,723	3,962	47,838	234	118,597
Against 1902	15,752	37,703	4,311	32,905	164	90,835
Against 1901	14,293	42,940	4,387	30,476	94	92,190
Deliveries from January 1 to May 31:						
1904	3,586	8,148	2,679	8,141	145	22,699
1903	2,807	8,854	2,448	8,443	68	22,620
1902	2,649	10,216	2,712	7,277	87	22,941
1901	2,822	11,643	2,589	8,506	77	25,637
Exported in May, 1904	21	....	171	58	....	a245

a Of which to Africa, 128; United States, 99; Channel Islands, 10; Malta, 4; Bremen, 2; Bombay, 1; Isle of Man, 1.

Prices.

Strips.	1904	1903	
		Pence.	*Cents.*
Western:			
Fillers	Nominal.	5	10
Rather short		5¼ to 5¾	10½ to 11½
Very middling to middling		6 to 6¾	12 to 13½
Good to fine		7 to 7½	14 to 15
Burley		5½ to 8	11 to 16
Virginia dark:			
Fillers		5 to 5½	10 to 11
Rather short		6	12
Very middling to middling		6½ to 7½	13 to 15
Good to fine		8 to 10	16 to 20
Virginia and Carolina bright:			
Semidark		6 to 6½	12 to 13
Semibright		7 to 8½	14 to 17
Medium or mixed		9 to 10½	18 to 21
Good to fine		11 to 14	22 to 28

Leaf.	1904		1903	
	Pence.	*Cents.*	*Pence.*	*Cents.*
Western:				
Common export				
African export	4½ to 5 to 6	9 to 10 to 12	— to 5 to 6½	10 to 13
Short trade	4 to 4½	8 to 9	— to 4	— to 8
Medium to good trade	4¾ to 6	9½ to 12	4½ to 6	9 to 12
Burley	None.	None.	6 to 7 to 8	12 to 14 to 16
Virginia dark:				
Common export	— to 3¾	7½		
Short trade	4¼ to 4½	8½ to 9		
Medium trade	4¾ to 5¼	9½ to 10½	4 to 5	8 to 10
Good to fine trade	5½ to —	11 to —	5½ to —	11 to —
Virginia and Carolina bright:				
Common or semibright	6 to 7	12 to 14	— to 6½	— to 13
Medium or mixed	7½ to 9	15 to 18	7½ to 10	15 to 20
Good to fine	9½ to 10½ to 13	19 to 21 to 26	10½ to 11½ to 15	21 to 23 to 30

Board of trade returns for the United Kingdom.

POUNDS WEIGHT OF UNMANUFACTURED TOBACCO DELIVERED—

Use.	Month ended April 30—			Four months ended April 30—		
	1904	1903	1902	1904	1903	1902
Home consumption	9,136,263	6,400,079	8,014,742	29,630,306	26,256,638	27,542,946
Export	289,568	431,238	1,246,914	1,318,130	1,680,223	2,702,029
Total	9,425,831	6,831,317	9,261,656	30,948,436	27,936,861	30,244,975

POUNDS WEIGHT OF UNMANUFACTURED TOBACCO REMAINING IN BOND APRIL 30—

1904	188,611,000
1903	197,375,000
1902	159,219,000
1901	159,562,000
1900	161,373,000

A continuous demand for most grades of leaf was experienced throughout May, and prices for this description were steady, but strips remained a dead letter for all ordinary sorts, although a few specialties in stemmed tobacco may have been sold.

Holders of strips are waiting for the Government to formulate some scheme by which their unsold stocks may go into consumption. It is now some six weeks since the budget announcement of a differential rate was made, and in the meantime strips have been unsalable. That holders should be compelled to realize these stocks, imported under a uniform rate of duty, at 25 to 40 per cent loss, in consequence of the imposition of a differential rate leading to a general use of leaf in place of strips is, on the face of it, out of the question, and is contrary to the elementary principles of justice. But if merchants wanted to realize on such strips at present, before an adequate rebate or allowance is announced by the chancellor of the exchequer, the loss indicated would have to be faced. The trade trust to hear of an early pronouncement on this point by the Government, so as to end the period of paralysis from which business suffers. As regards the future, once existing stocks of strips are out of the way, it will be comparatively simple to arrange for the bulk of the imports to consist of leaf.

EDWARDS, GOODWIN & Co.

RAILWAYS IN AFRICA.

(*From United States Consul Ravndal, Beirut, Syria.*)

Having at various times reported to the Department of State on railroad building and other evidences of progress on the Dark Continent, I may be permitted to record some further developments gleaned from various sources.

CAPE TO CAIRO.

It is asserted that during April of the present year the first through train will run from Cape Town to the Zambesi. On February 1 the rails were said to be within 48 miles of Victoria Falls, and excavations for the great bridge which is to span the Zambesi were in active progress. It is hoped that the erection of the bridge may be completed this year. With the setting up of the bridge and the completion of the line to that point the present contracts expire. The next section of the line to be built will be from the Zambesi northeast to Broken Hill, a distance of 350 miles in the direction of Lake Tanganyika. Bids for this portion of the line are now being advertised for.

Lord Cromer is reported as having recently made thé following observations on the Cape to Cairo Railway:

> I have, so far, always understood that this project contemplated—as its title implies—the establishment of continuous railway communication from Cairo to Cape Town. I am not prepared to say that, from a purely engineering point of view, the execution of this plan would be absolutely impossible. But I am quite confident that, in view of the very great physical difficulties which would have to be encountered, the cost of constructing any such railway would be altogether out of proportion to its utility. I am, however, given to understand that this project—if it was ever seriously entertained—has now been abandoned, and that the idea of establishing communication by rail and river between Cairo and Cape Town has been substituted in its place. This is altogether a different matter. A very difficult—if not the most difficult—part of the original project is thus abandoned, for it will no longer be necessary to construct a railway across the vast marshes lying, roughly, between the 5th and 10th parallels of north latitude. I can not speak with any authority as regards the difficulties which, in the execution of the revised project, might have to be encountered south of Gondokoro. All I need say is that the Egyptian and Soudanese part of the work is already accomplished. A regular tourist service by rail and river now runs from Cairo to Gondokoro.

SUAKIN-BERBER.

At an estimated cost of about $8,750,000 the construction of the Suakin-Berber line, the total length of which will be 332 miles, has been vigorously undertaken by the government of Sudan, which hopes to have the line in working order early in 1906. The chief difficulties in constructing the line will be the absence of water along the route and the occasional storms in the Suakin hills. After pursuing a northerly course in ascending the plateau (about 3,000 feet high), running parallel to the coast, the line will turn in a southwesterly direction, striking the Atbara about 20 miles from its junction with the Nile, and, after following that river for some distance, join the existing line about a mile north of the Atbara bridge. The necessity for this railway is succinctly stated as follows:

> Wheat can be sent from Chicago to Liverpool at practically the same rate in freights as from Khartoum to Wadi Halfa. The main reason for this is the very high price of coal in the Sudan. It has to be brought to Khartoum from Alexandria. This fact is sufficient in itself to show the absolute necessity which exists for the construction of the Suakin-Berber railway. In fact, until this railway is constructed it is quite hopeless to expect any serious progress or development in the Sudan. One result which it is hoped to obtain will be to supply the Arabian market from the Sudan. There is a large demand for cereals at Jiddah, particularly during the pilgrimage.

Recently published details in regard to the construction work bring out the following information:

> A quay has been made at Suakin. Pontoons and a 20-ton floating steam crane are in course of erection, to enable the heavy railway stores to be dealt with easily. Store sheds have been erected, and some offices and quarters are being built. All these were ready for use before March 15.
>
> Sufficient rails, sleepers, engines, wagons, tanks, pumps, coal, engine sheds, turntables, weigh bridges, huts, stores, and tools were delivered at Suakin by the 1st of March, to enable a yard and shops to be laid out on Grahams point, so that there may be no delay in dealing with the first large consignments of railway material, which are due in Suakin in July and August next.
>
> The first of the heavy engines which are required for construction is expected to reach Suakin in August or September. If no unforeseen delay occurs in the delivery of engines or materials, the serious work of construction should begin in October next.
>
> A duplicate set of condensers has been bought for Suakin, the present water supply being inadequate, but the wreck of the *Afghanistan*, with the condensers, will, of course, somewhat retard the work.
>
> A light-house has been bought and will be erected at the main passage through the reefs north of Suakin. A tug has been ordered. It will be of great assistance in berthing large vessels as well as in taking out pilots and carrying supplies and stores to the light-house.
>
> All engines, wagons, rails, steel sleepers, stores, tools, etc., for the line have been ordered in England. Some yarra wood sleepers have been ordered in Australia. Indian coal is to be used.

EGYPT-TRIPOLI.

The Khedive is credited with a great railway scheme by the Egyptian Gazette, of Alexandria, which is usually well informed and which describes the project as follows, under a recent date:

> The Khedive has decided to construct a line toward the frontier of Tripoli, and has already ordered the materials for the first 100 kilometers (normal gauge) from a well-known local firm. The work will be taken in hand shortly.
>
> The line will follow the present Mariut line for the first part of the route. Some idea of the gigantic nature of the scheme can be obtained from the fact that the order for the material for the first 100 kilometers, which the Khedive has just given, represents 10,000 tons of steel. The order has been given to the Belgian company of Ougrée-Marihaye, whose works are well known to travelers by the night expresses from Paris to Germany from the enormous furnaces which light the surrounding country for miles around. The announcement of the decision of the Khedive to begin the construction of a line to Tripoli marks an event of considerable importance in the history of the development of Egypt as a railway center.
>
> Northern Africa will inevitably be united by a railway system before many years are past. Already railways extend from the Algerian-Moorish frontier to Kairwan. Tripoli will some day unite the Tunisian and Egyptian railway systems. The line from Alexandria to the frontier of Tripoli is therefore the beginning of Egypt's connection with the future line which will gird the whole of the northern coast line of the African continent.

G. Bie Ravndal, *Consul.*

Beirut, Syria, *May 14, 1904.*

RAILWAY EXTENSION IN BOLIVIA.

(*From United States Minister Sorsby, La Paz, Bolivia.*)

The Peruvian corporation owning and operating the Southern Railway of Peru, from Mollendo on the Pacific to Puno on Lake Titicaca, and operating lake steamers in connection therewith between Puno and Guaquai, has acquired control and taken possession of the Guaquai-La Paz (Bolivian Government) Railway from Guaquai, the Bolivian Lake Titicaca port of entry, to the city of La Paz, for the term of seven years from June 1, 1904, under a contract or lease.

The corporation lends the Government £50,000 ($243,335), at 6 per cent interest, for the completion of the extension of the Guaquai-La Paz line from the Alto to the city of La Paz, and the Government recognizes its present indebtedness to the corporation of something more than £23,000 ($111,930), which, with the £50,000 loan, and the cost of the permanent improvements that may hereafter be bought and made, will be charged against an amortization fund of 40 per cent to be reserved from the revenues of the railway, and if at the end of the seven years the total obligation has not been covered by this amortization fund, the Government will extend the lease or pay to the corporation such balance as may then be found to exist. The corporation will retain 60 per cent of the revenues of the railway for operating expenses during the term of its lease.

The extension from the Alto (the present terminal of the Guaquai-La Paz Railway), for which the £50,000 ($243,335) loan was made, will be an electric line, 8 kilometers (4.97 miles) in length, with a 6 per cent grade and 1 meter (39.37 inches) gauge (the same gauge as that of the main line), and will be completed within about twelve months. All of the material and equipment for the construction and operation of this extension will be obtained from the United States.

Thus it will be seen that by the acquisition of the Guaquai-La Paz Railway, the Southern Railway of Peru secures a continuous service from Mollendo, Peru, to La Paz, Bolivia.

In this connection I further have to report that it now seems probable that the Peruvian corporation will also be given a concession for the construction of the proposed railway from Viacha, on the Guaquai-La Paz line, to Oruro, on the Antofagasta-Oruro line, under a fifty years' lease and with a guaranteed interest of 6 per cent on £550,000 ($2,676,575), the estimated cost of its construction and equipment. The length of the line will be 220 kilometers (136.6 miles), and it will be level, except for a few rises and falls the grade of which will not exceed 2 per cent. It is to be completed within three years after the final acceptance of the lease by the Peruvian corporation and the Bolivian Government, through the Executive. The interest will be guaranteed for the term of the concession by the alcohol tax.

Considerable opposition has developed in the local press against the policy of the present administration (which goes out of power in August, but will be succeeded by an administration of the same political faith) in granting the seven years' lease of the Guaquai-La Paz Railway, as well as against the proposed concession for the building and operation of the Viacha-Oruro line, and probably very much of the time of the Congress which convenes in August will be consumed in the discussion and treatment of these two matters.

William B. Sorsby, *Minister.*

La Paz, Bolivia, *June 9, 1904.*

RAILROADS IN CHINA.

According to the Kolonial Zeitung of June 9, 1904, a new railroad was opened to public traffic in Shantung, China, on June 1. Although other roads were built and operated in China previously, this road has a deep significance at this time. Work during 1903 had been urged forward so as to finish it within the time agreed upon for its completion when the right to build the road was conferred by the Chinese Government. The full payment, therefore, in series of shares of the nominal value, each series, of $1,428,000 was called for; so that January 1, 1904, saw the full amount, $12,852,000, paid up. By 1902, 129.24 miles had been built between Tsingtan and Tschang-loh-sien. By March 1, 1904, 223.69 miles were in operation. Finally, on June 1, the main line of 241 miles, and a branch to Schetochuan from Tschangtieu of 11.18 miles, was opened.

During 1902, 4,280 passengers were carried each week and 256 tons of goods were transported. In 1903 the number of passengers carried weekly was 6,813 and the amount of goods 818 tons. In 1901 on an average of 40.38 miles the traffic was 59,912 passengers and 5,473 tons of merchandise; in 1902 on an average of 105.63 miles the passengers numbered 221,197 and the merchandise amounted to 13,845 tons; in 1903 on an average of 157 miles the passengers numbered 363,343 and the merchandise amounted to 44,962 tons.

Receipts for three years.

Year.	Passengers.	Freight.	Total.	Receipts per mile.
1901	$30,819.31	$16,181.87	$51,868.12	$946.00
1902	110,937.24	91,359.85	211,425.29	1,989.89
1903	212,184.73	205,496.60	442,239.65	2,796.77

Running expenses for the three years.

Year.	Total expenses.	Expenses per mile.
1901	$75,008.43	$1,368.30
1902	236,991.45	2,237.80
1903	289,253.60	1,829.28

The receipts for 1904 will be much larger than for the last or for any previous year, for the amount taken in for the first five months of the current year was already $400,000, or nearly as much as the total for the year 1903.

USE OF COAL BRIQUETTES BY FRENCH RAILROADS.

(*From United States Consul Covert, Lyons, France.*)

The inspector-general of the Paris, Lyons and Mediterranean Railroad Company, in this city, says that his road uses large quantities of coal briquettes, about 10 per cent of its fuel consisting of them. Thus the road is enabled to utilize all the slack and coal dust from the mines. The engineers can get up steam more quickly with briquettes than with any kind of coal without them. They form no slag or clinkers and tend to prevent the formation of clinkers when used with other coal. The company manufactures its own briquettes. About 65 per cent of its fuel consists of fine coal, or slack.

A specimen of coaleo (a form of briquette manufactured in St. Louis, Mo.) sent from St. Louis has attracted a great deal of attention here, and the coal men naturally imagine that Americans will be exporting this fuel to France soon.

Coal briquettes are in very general use in France, hardly a household being without them during cold weather. They are more easily handled and more readily ignited and they throw out more heat than coal and make no dirt at all. They are preferred to any kind of coal.

John C. Covert, *Consul.*

Lyons, France, *June 8, 1904.*

COSTS AND PROFITS OF ELECTRIC RAILWAYS IN GERMANY.

(*From United States Consul-General Mason, Berlin, Germany.*)

The enforced publication of corporate finances and the exhaustive methods by which municipal accounts are kept and made public in Germany have enabled the Association of Electrical Engineers to collect and formulate some highly interesting statistics on the financial results which have followed the change from horse to electrical traction in street railways in this country. Although this transformation began later here than in Belgium and the United States, it was made with such promptness and energy that within a period of four or five years the horse car practically disappeared from Germany and was replaced by electrical tramway systems, which traverse all the cities and larger towns and connect each of them with practically every village and hamlet in a large and constantly extending radius. These systems have now been in operation long enough to supply some definite data as to the profits of such enterprises under existing conditions in Germany, which, measured by average street railway dividends and the market values of their shares, have been in general somewhat disappointing. The net fact, which has been known to investors for some time, and which these newly formulated statistics confirm and explain, is that electric street-car lines, while serving the public infinitely better than any other method of city and suburban transportation yet devised, have proved in many if not most cases less lucrative to shareholders than the horse-car lines which they replaced. There are several tangible reasons for this, some of which are more or less peculiar to Germany. Among these may be cited the fact that most German municipalities refused at the outset to permit overhead conductors to be used in important or centrally located streets, and the companies were therefore forced to use a costly type of car which would take its current in the suburban streets from an overhead wire carrying a voltage sufficient to charge at the same time storage batteries of sufficient capacity to run the car through the central districts where the trolley wire was forbidden. These storage batteries were heavy and expensive, they deteriorated steadily and were difficult to keep in order, and when the snow and ice of winter encumbered the tracks they failed so utterly in Berlin, Hanover, and other cities that thousands of cars equipped with them had to be thrown out and their storage batteries removed. It was only at this heavy cost that the overhead trolley wire secured admission to the central districts of several German cities, and there are even yet in Berlin and elsewhere long stretches on important avenues where it is tabooed and underground conductors are insisted upon as indispensable.

A second important fact in this connection is that German municipalities are very exacting with tramway companies in respect to rates of fare, paving, and all the other specifications of their franchises. Every step in the process of construction is subject to the inspection and control of the city engineers. Most franchises involve the responsibility of the company of laying and keeping in repair the pavement on all space between the two outer rails, a breadth, in case of double tracks, of 12 to 15 feet or more, and where, as in Berlin, the pavement is asphalt laid on deep foundations of rubble and cement, this becomes a heavy item in the cost of construction and maintenance, for no skill and experience seem able to avert the necessity of frequent upheavals for purposes of repair, in which asphalt and cement have to be cut out with cold chisels driven by sledges, a slow and toilsome operation.

Moreover, there are very few municipalities in Germany where electric current can be generated by any other or cheaper power than that of steam or gas engines, and no form of steam fuel is really cheap in this country. Although a very few of the largest central stations produce electric power as low as 1¼ cents per kilowatt-hour, in most others the cost averages from 2¼ to 3¾ cents, and in certain small stations as high as 10 cents per kilowatt-hour. Estimated by the ordinary German standard, the power consumption per car varies with grade, curves, and other conditions from 450 to 700 watt-hours per car-kilometer, equal (in case of the latter figure) to 1,170 watt-hours per car-mile.

Finally, the outlay for track renewal and repair turns out here, as elsewhere, to be unexpectedly heavy. In the days of horse cars a well-laid track in a city of from 150,000 to 200,000 inhabitants would last from a dozen to fifteen years. Now, with the far heavier and more frequent cars, the rails, especially at curves, wear in much less than half that period until the wheel flanges are found running on the bottom of the groove, so that the track has to be taken up and renewed. Another cause of frequent and expensive repairs lay in the fact that the surface resistance of the copper bonds with which the rail ends were united increased rapidly under certain conditions, until their use was largely superseded by the better system of welding the rail joints by means of electrical heat or thermite.

Still another increased item of expense has been that of labor. The motormen are naturally employees of a higher grade than horse-car drivers, and being well organized, they have been able to compel increased wages and to shorten working hours until the net labor cost per car-kilometer is more than 50 per cent greater than in former years.

To all this is to be added the fact that the rates of fare in most if not all German cities are rigidly restricted by the authority granting the concession. In Berlin, for instance, street railway fares anywhere within city limits are restricted to 10 pfennige (2.38 cents), and for the same sum the passenger may ride on some of the suburban lines any distance up to 7 kilometers (4.34 miles). From the latest published statistics it appears that the average street railway fares paid in 11 principal German cities during the year 1903 varied from 2.2 cents each at Frankfort to 2.72 cents at Hamburg, the mean average for Berlin and its suburbs being 2.35 cents, or less than half the usual 5-cent fare that prevails generally in the United States. To complete the restrictions under which street railways operate in this country, most of their charters contain clauses providing that from a prescribed date the company shall pay to the municipality a portion of its surplus after disbursing a stipulated percentage as dividends. A typical contract of this kind stipulates that beginning with 1903 the company shall pay to the city 35 per cent of its surplus remaining after a 6½ per cent dividend has been paid to stockholders, and 50 per cent of the surplus after an 8 per cent dividend. Many charters further provide that after being operated by the companies for a specified term of years the whole installation, tracks, power plant, and equipment, shall revert in fee simple to the municipality which has granted to the corporation for a term of years the use of its streets.

The total length of German street railways at the close of 1902 was 1,906 miles, of which 346 miles, or about 18 per cent, were under municipal ownership. Of the latter, 65 miles were leased to individuals, leaving 281 miles of lines operated directly by the municipalities. The four longest municipal lines are at Frankfort, 26½ miles; Düsseldorf, 25 miles; Munich, 29 miles, and Cologne, 40 miles. It does not appear that fares over these lines are lower, but, on the contrary, that they are rather higher than those charged on similar lines worked by individuals or corporations. In Nuremberg, for example, the principal street railway charged, under private management, a uniform 10-pfennig (2.38-cent) rate, until the city, in order to complete a zone system, took over the private line and thereupon increased the rate of fare. On the whole, it can not be said that experience has increased public sentiment in Germany in favor of municipal management of street railways, and several cities—among which is Barmen—which built their own lines are now considering the plan of leasing them to private companies.

By far the largest and most important corporation of this kind in Germany is the Great Berlin Street Railway Company, which, with its various branches, operates 200 miles of track, of which 144 miles are owned and the remainder are controlled by the company. On its own lines the "Grosse Berliner" ran last year 40,400,000 car-miles and carried 295,000,000 passengers, whose fares aggregated $7,025,000. The total capital of the company is 100,082,400 marks ($23,819,611); its shares are to-day worth 184, and its 3½ per cent bonds are quoted at 99.40. This, however, is the status of an exceptionally powerful and ably managed company in a large, level city, and is quite above the average financial condition of street railway companies elsewhere in Germany, most of which have to be satisfied with 4 and 5 per cent net earnings on their stock.

The Berlin company is at present in litigation with the city over a question which, as it involves the important point whether a municipality may grant franchises to new companies on streets already occupied by another lessee, has a certain pertinent interest in this connection. About two years ago there was opened for traffic the so-called Elevated and Underground Railway, a double-track electric line of the most perfect construction and appointment, with two arms or branches running from a central station to points in the eastern and western parts of the city. Trains of three cars run over these branches at intervals of three to five minutes and at such speed as to traverse a distance of 2½ miles in about ten minutes. The line is very popular and carries an immense and steadily growing traffic, which naturally trenches more or less upon the business of the surface lines which belong to the "Grosse Berliner." In order to reach a still more central and crowded portion of the city the new company asks authority to extend its subterranean main stem from the present terminus at the Potsdamer Railway station northeastward to a point beyond the river. To this the Great Berlin Company objects, and the municipality has applied to the courts to confirm its authority to disregard the protest and grant the franchise for what would be an important public improvement.

The one all-controlling fact which has enabled street railways in Berlin and other German cities to make head against the exacting requirements of municipalities and the enormous cost of conversion from horse to electric traction, with the increased outlay for labor, workmen's insurance, paving, and other expenditures, has been the phenomenal increase in business, particularly in the suburban traffic in all the larger towns, which has come with the increased speed, the greater frequency of service, the better ventilation, space, and comfort of electric cars. Whole suburbs have been built up within a few years by the influence of a single well-managed tramway line, which carries a legion of men and women to and from their daily toil in the city more quickly and cheaply than the horse car could transport them half the same distance. And although the electric street railways of Germany under the conditions above described are but moderately remunerative to shareholders, they hold a high place among the potent influences of modern civilization.

FRANK H. MASON, *Consul-General.*

BERLIN, GERMANY, *June 10, 1904.*

STATE RAILWAYS OF BADEN.

(From United States Consul Harris, Mannheim, Germany.)

At the close of 1903 the Grand Duchy of Baden owned and operated about 1,035 miles of railway, which included all the important lines in the province. Of these railways 908 miles were main and branch lines, while 127 miles were short local lines, generally of narrow gauge and cheap construction. These several roads had 332 stations for passengers alone, and 7 stations for freight alone, making a total of 436 stations, or one station for each 2.37 miles.

The total number of men employed in all departments of the service, including those working in railway shops, was 21,904, or slightly more than 21 to each mile of line.

The state railway debt at the close of 1902 was approximately $94,500,000.

While railway statistics of Baden in recent years show a rapid increase of both freight and passenger traffic, they also show a tendency for operating and other expenses to increase at a more rapid rate than the gross earnings of the lines. The net earnings during the past two years have not reached a sum sufficient to properly provide for the railway indebtedness, and the crisis thus reached has led to much discussion as to the causes of and the remedy for the situation. The subject has been very fully considered in the legislative bodies at Carlsruhe, by the department of railway management, and by the press of this locality.

Including the few unimportant private railway lines in Baden, the net earnings of which are a trifle higher than those of the State lines, the total net earnings on the capital invested in the railways of Baden for the years 1900, 1901, 1902, and 1903 is stated to have been 3.31, 2.55, 2.39, and 2.30 per cent, respectively.

In 1890 the operating expenses of the lines were 61.18 per cent of the total income. In 1902 this percentage had risen to nearly 82 per cent, and while it was reduced to 72 per cent in 1903, the net earnings for the year were regarded as considerably below a safe point. These earnings, which in 1899 reached their highest point, almost $6,000,000, dropped in 1900 to $4,285,000. In 1901, 1902, and 1903 the earnings were $3,450,000, $3,500,000, and $3,284,000, respectively. The present estimated demand for interest and sinking fund is about $6,000,000.

Among the causes most frequently assigned for the unfavorable situation are the general business depression under which Germany has suffered for some time past; the improvement of the lines themselves, including the building of stations, etc.; the increase in the wages paid employees; and losses due to accidents. Other causes less frequently assigned as tending to reduce railway earnings in Baden are the low passenger rate, due to the use of mileage books; the want of better traffic agreements between the railway authorities of the several German States; the small freight cars, which it has been urged should be supplanted by heavier cars of the American type, etc. The question of passenger fares has perhaps called forth the most vigorous discussion.

In 1895 the railways of Baden adopted a convenient form of mileage book for each of the three classes of passengers. These books are not in use on lines other than those of Baden, and have considerably reduced the cost of travel on the State lines. Until 1901 these books were sold for 1,000 kilometers (621.36 miles) only. In 1901 a book for 500 kilometers (310.68 miles) was sold to third-class passengers only. The rules for the use of these books being very liberal, more than 40 per cent of the travel, other than through travel, is by means of them. The prices charged are as follows: first class, 1,000 kilometers (621.36 miles), 60 marks ($14.28), about 2.3 cents a mile. Second class, 1,000 kilometers, 40 marks ($9.52), about 1.5 cents a mile. Third class, 1,000 kilometers, 25 marks ($6.19), and 500 kilometers (310.68 miles), 12.50 marks ($3.15), both about 1 cent a mile.

The use of these books dispenses with the usual extra charges for express trains, and as 1 mark (23.8 cents) is refunded upon return of the cover of the 1,000-kilometer book when used, their effect is to reduce considerably the cost of travel. For example, by mileage book, the fare from Heidelberg to Basel, third class, by fast or slow train, is 6.30 marks ($1.50); by regular ticket, by slow train, 8.70 marks ($2.07); by fast train, 11.55 marks ($2.75).

The sale of these books since their adoption has been as follows:

Sale of mileage books on Baden railways, 1895–1903.

	Books.
1895	72,794
1896	87,082
1897	118,554
1898	138,273
1899	157,669
1900	173,796
1901	208,418
1902	246,779
1903	280,371

Two 500-kilometer books are counted as one 1,000-kilometer book in 1901, 1902, and 1903.

The number of these books which fall to each class of travel may be seen from the figures for 1902 and 1903.

Sale of mileage books on Baden railways, by classes of travel, 1902 and 1903.

Class.	1902	1903
First, 1,000 kilometers (621.36 miles)	1,067	1,236
Second, 1,000 kilometers (621.36 miles)	36,754	38,226
Third, 1,000 kilometers (621,36 miles)	62,813	59,191
Third, 500 kilometers (310.68 miles)	292,289	353,428

Differences of opinion exist as to the effect of the cheaper fare. The public naturally approve of it and further concessions are urged looking ultimately to still lower rates of travel. The whole subject of cheap transportation facilities as related to industrial and social welfare has been made the subject of exhaustive newspaper articles and earnest official consideration. An extreme view of the question of these mileage books has been that they are the cause of the unfavorable situation; that passenger rates in Baden are by their use brought so low that passenger traffic ceases to be profitable. A somewhat middle ground is that occupied by the State authorities and business men generally, that the present rates should be maintained, but that they are probably as low as is safe.

The slowly improving business conditions in Germany are expected to bring about a more favorable showing in the State railway earnings. Nevertheless the results of the current year will be watched with interest and the taxpayer will look with disfavor upon deficits in this branch of the State service. The subject is one of wide economic importance and the results are not easy to foretell.

H. W. Harris, *Consul.*

Mannheim, Germany, *May 24, 1904.*

PROPOSED TRANSFER OF GERMAN RAILWAY LINES.

(*From United States Consul Harris, Mannheim, Germany.*)

The main network of railway lines in that portion of this consular district known as the Rhine Pfalz or Palatinate is at present operated under private management. The lines, with a total length of about 480 miles, are owned by three distinct companies. Most of the lines are short, and traverse in all directions a small and somewhat thickly settled area. The lines owned by these separate companies are the

Ludwigsbahn, about 219 miles; the Maximilianbahn, 95 miles; the Nordbahn, 166 miles.

Since January 1, 1870, the lines of these three companies have been operated under a single management by virtue of an agreement made in 1869, to continue for a period of one hundred years, unless in the meantime the State exercises the right reserved to it to purchase the lines. The ownership of each of the three properties remains in the respective company, just as before the agreement was entered into. Each company keeps up its separate organization, and is represented with an agreed voting power in the general meetings of the combined companies.

Under the agreement with the State at the time of the incorporation of the separate companies and their consolidation in 1870, the right is reserved to the State to take the properties at any time after January 1, 1905, by paying a certain price to be determined from the books of the companies. December 12, 1903, was fixed as the date at which the State was to elect whether it would take the properties from and after January 1, 1905.

The State did not make the election referred to, but since that date has made a proposition to the several companies to take the properties at a price corresponding to the market price of the stocks of the companies, as shown by the Frankfort stock exchange of March 14, 1904, to wit, the stock of the Ludwigsbahn at 219, of the Maximilianbahn at 138.30, and of the Nordbahn at 126½. This proposition was presented and informally discussed at a joint stockholders' meeting of the three companies held on April 29 of this year. While the offer of the State was not accepted, it is deemed not improbable that terms will yet be agreed upon and that the transfer will be made in the near future.

Under a guaranty of the State, the three separate companies now pay dividends of 9 per cent, 5½ per cent, and 4 per cent, respectively, or from 4 to 4½ per cent on the actual cash value of the stock. The latter is not taxed. This fairly satisfactory income is set forth as a good reason for the stockholders to retain the properties. The State's power to build competing lines or to otherwise reduce the profitableness of these while in private hands is one subject in a somewhat many-sided discussion. Probably the sentiment of bankers and other business men not directly interested in the question is favorable to the State taking control of these lines.

H. W. HARRIS, *Consul.*

MANNHEIM, GERMANY, *May 24, 1904.*

INDUSTRIAL USES OF THERMITE.

(*From United States Consul-General Mason, Berlin, Germany.*)

One of the notable improvements in railway construction in Germany during recent years has been the practice of securing a continuous rail by welding together the rail joints, either when the track is being laid down or after it is finished and in use. The welding is accomplished by applying an intense heat to the ends of the abutting rails, with or without a soldering material, and the first more or less successful essays in this direction were made with electricity as a heating factor. But this proved expensive and difficult, and recent practice has been directed to the use of elements which when united generate heat by chemical reaction.

There are numerous combinations of this kind known to chemistry, among which one of the most efficient and practical, by reason of the intensity of the heat generated by the reaction and the abundance and cheapness of the requisite materials, is the union of oxygen with finely pulverized aluminum. On this is based the new science of aluminothermics, the most important commercial product of which is known as thermite, a combination of pulverized aluminum with a mineral oxide, usually the oxide of chromium. When these substances are mingled and ignited there ensues a chemical combination or combustion that without the application of external heat generates a tem-

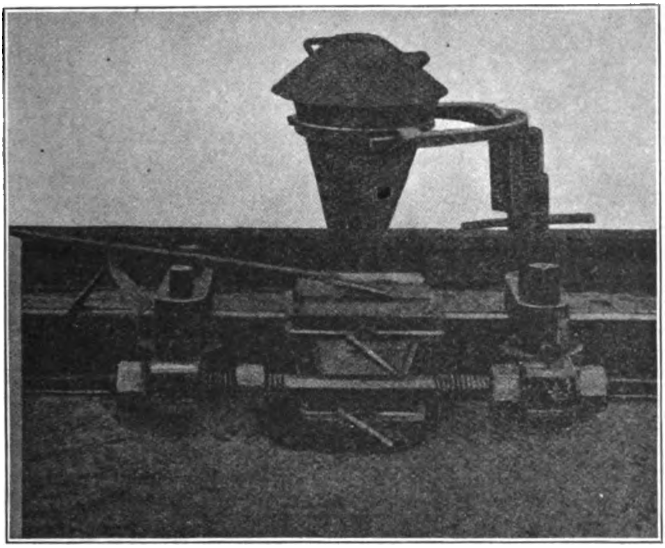

FIGURE 8.—Method of welding rails with clamps.

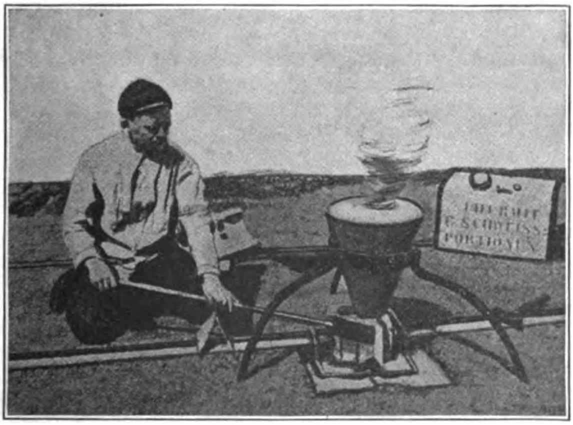

FIGURE 9.—Method of welding rails without clamps.

perature about equal to that of the electric arc light, which is capable of fusing many metals, even when applied within a relatively small space. Aluminum and oxygen are among the most abundant of the primary elements, so that the commercial value of the discovery is limited only by the cheapness with which the two materials can be provided and the field or range of purposes to which thermite can be applied.

As has been already intimated, one of the most important of these is the welding of joints, by which a continuous rail, so advantageous in a modern trolley railway line, is simply, cheaply, and effectively secured. Before the application of this process the rails of trolley lines had been connected to form a continuous circuit by means of bonds or ligaments, usually of copper and more or less unsatisfactory, since the skin resistance of copper bonds when buried increases with age, which necessitates more or less frequent repairs. The welded rail, on the other hand, is not only a good electrical conductor, but has the additional advantage of smoothness and continuity, which obviates the clanking shock when the wheels pass over an imperfect joint and the undue wear which comes upon the end of the rail where the wheels first strike it on passing from one rail to another. From all that can be ascertained, the thermite rail-welding process is now definitely accepted for intramural lines, and 20,000 joints have been united by this system in forty European cities during the past few months. There are 30 miles of such welded rail in and about Berlin. In the practical application of the thermite rail-welding process two methods are employed, viz, with and without clamps:

When clamps are used they are connected as shown in figure 1, by two strong set screws, and the process is as follows: The clamps having been screwed tight to the rails, a small crucible, made of sheet iron lined with magnesia, is suspended by a bracket support directly over the rail joint, which is inclosed in a mold or packing of fine clay to confine the fluid metal to the desired point of contact. All being in readiness, a charge of chromium oxide and pulverized aluminum is put into the crucible and ignited; the fire extends through the mixture, which fuses spontaneously with an intense heat, and, the bottom of the crucible being tapped, the molten, glowing liquid pours down into the space between the rail ends, melting to softness the metallic surfaces and producing a perfect butt weld, which is perfected by tightening the set screws and drawing the rail heads firmly together two or three minutes after the cast has taken place. The rails are thus rigidly and perfectly united, the only inequality being a slight rim or upset on the face of the rail, which is easily removed with a cold chisel or by filing. This was the method which was at first generally employed.

It was found that for practical purposes the process could be much simplified and cheapened by dispensing with the use of clamps, whereby the time required for adjusting them and chiseling off the upset is saved. This simpler method was first applied successfully at Barmen to a track already laid down and embedded. The old fish plates were removed, the ends of the rails were raised slightly by means of a crowbar, and a shim was firmly wedged in between. The molten thermite was then poured around the joint and the shim was welded into the head of both rails. In welding without clamps new rails not yet fastened down or embedded, the weld can be perfected by wedging back the rail from the next succeeding joint. The time saved on each joint by dispensing with clamps is found to be about three-quarters of an hour for one man. The work is most advantageously done by a squad of three laborers and a foreman. Reckoning the average wages of these four men at $1.50 a day, the labor cost of welding rails without the use of clamps is about 10 cents a joint, or double that amount when clamps are employed. All other labor connected with the welding and the cost of the thermite remain the same whether clamps are used or not.

The simple conditions to be observed in either case are that the rail heads to be joined must be cleaned of rust and dirt with a wire brush and slightly warmed. The rails should then be perfectly aligned and surfaced, as otherwise the defective alignment will be made permanent by welding. No fish plates and consequently no bolt holes are required. The welding is done automatically by the thermite itself, and does not require the skillful supervision of an expert welder. The mold which fits around the rail and is tightly screwed to it must be dry and porous, and if the operation is continued in wet weather a small movable tent or other shelter is requisite to protect the mold and molten thermite from contact with water.

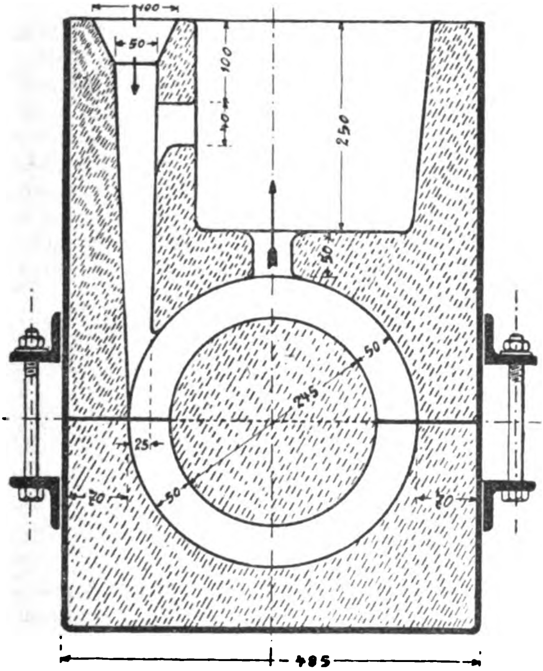

FIGURE 10.—Mold for repairing broken shafts (dimensions in millimeters).

The crucible in which the thermite is smelted is simply made by lining a sheet-iron cup or vase with magnesia, that is introduced by tamping around a conical core suspended in the middle of the metallic shell. The bottom of the crucible is a disk of magnesia stone pierced with an orifice to permit the outflow of the contents when fusion is complete. After the magnesia lining has been tamped in, the crucible, with the core still in position, is heated in an oven for two hours to a glow heat. It is then cooled, the core is withdrawn, and the crucible—which will stand on an average 25 thermite reactions—is ready for use. Thermite is put up in small bags, each containing a charge or quantity necessary to weld a rail joint, and in this form is sold to railway and tramway companies, which generally make their own crucibles and molds and have the welding done by their own workmen.

When an exposed third rail is used for current transmission this process is also employed, but instead of a complete butt weld it is sufficient to weld a small shim or bridge of thermite iron between the flange ends on one side of the rail, which greatly simplifies the process and secures a satisfactory joint for electrical purposes.

A second and not less interesting use of thermite is for welding and repairing broken parts of heavy machinery, such as shafts, driving wheels, and the sternposts and other parts of vessels which can not be easily removed for ordinary repair. When the problem is to mend a broken shaft no crucible is necessary, but a mold is made with a chamber into which the charge is put and when molten flows by gravity down into the fracture and completes the weld.

Thermite, with an addition of one-tenth carbon, gives 50 per cent of mild, overheated steel, which can be hardened when necessary by the addition of manganese. It offers therefore to the foundry man, the machinist, or the engineer a supply of liquid steel which can be created and used on the spot in any desired quantity, not only to weld rails and other forms of metal in construction, but to correct faulty castings, and, by uniting broken or worn-out parts, to accomplish cheaply, far from a factory or machine shop, repairs which would otherwise be costly, tedious, and, in some cases, impossible.

FRANK H. MASON, *Consul-General.*

BERLIN, GERMANY, *June 14, 1904.*

MANAGEMENT OF BRITISH CITY-OWNED TRAMWAYS.

(*From United States Consul Mahin, Nottingham, England.*)

The report of the tramways committee of the Nottingham city council for the corporation year ended March 31, 1904, just made public, contains a remarkable tribute to the care and efficiency with which the cars are operated. The highest speed attained is, ordinarily, not over 12 miles an hour. During the year the total number of miles traveled by the cars was 2,512,000. Yet in all this great distance, traveled largely through busy thoroughfares, of which some are very narrow, not one person was killed by being run over, knocked down, or collided with. Of 46 pedestrians who were knocked down by or fell in front of a car, all were either thrown clear of the car or picked up on the life guard without suffering serious injury. Twenty collisions occurred between cars and cyclists, while 3 cyclists fell from their machines immediately in front of moving cars and were picked up on the life guards unhurt.

One death, and injuries—some very trifling—to 367 persons resulted from attempts to board or leave moving cars; in view of which it is suggested that to check the practice of boarding or leaving cars in motion it be made a misdemeanor, punishable by a fine.

In case of accidents on tramways not the fault of the injured persons the city never allows an action for damages, always making an amicable settlement. A case will illustrate this: As a double-deck car turned a corner on a down grade, the trolley wheel caught at the junction of the wires. The car moved on, but the trolley pole was wrenched from its fastening on the roof, tearing up the plank to which it was screwed, between the rows of seats on the top. This plank struck a working woman in the face, breaking her nose and jaw. The city placed her in a hospital, and will see that she is comfortably supported the rest of her life.

Financially, there was a net profit of 10 per cent (amounting to $65,000), out of the year's tramway business. This will be applied to the reduction of city taxes. The electric street-car service having now been operated by the city for over three years with a handsome profit each year and with satisfaction to the people using it, the undertaking is universally considered successful.

FRANK W. MAHIN, *Consul.*

NOTTINGHAM, ENGLAND, *June 7, 1904.*

RAILWAY CONSTRUCTION IN KOREA.

(*From United States Minister Allen, Seoul, Korea.*)

I have the honor to transmit an extract from the Daily Japan Mail of April 27 relative to the condition of work on the Seoul-Fusan railway. This shows 50 miles now completed on either end, out of the whole 268 miles, all of which are to be completed this year.

The Seoul-Wiju railway is progressing very fast. Blasting goes on day and night in a deep rock cut near Seoul. This is expected to be completed to Piengyang this year

HORACE N. ALLEN, *Minister.*

SEOUL, KOREA, *May 5, 1904.*

THE SEOUL-FUSAN RAILWAY.

(*From the Japan Daily Mail, Yokohama, Wednesday, April 27, 1904.*)

We learn from the Ji Ji Shimpo that the total length of this line is 268 miles, and that it is divided nearly equally by Yongdong, which lies 130 miles south of Seoul and 138 miles north of Fusan. Work is being carried on vigorously from Yongdong in both directions, and from Fusan and Seoul toward the north and south, respectively. The whole will be finished, it is expected, by the end of this year. Already construction trains are running from Fusan to Chhongdo (50 miles) and from Seoul to Phyongthak (50 miles). A section of 38 miles south from Phyongthak and 13 miles north from Chhongdo will be finished by June or July, making 151 miles open in all. The portion not actually commenced, but only surveyed, is 117 miles. There is a very difficult piece of tunneling at Sanghyon, in the 13-mile section beyond Chhongdo. The tunnel is 3,960 feet long, and not more than one-half has been cut. It can not be finished speedily, and the intention is to carry a temporary line over the hill, so as not to delay the opening of the service. Two bridges of from 1,200 to 1,300 feet and one of 2,000 feet will have to be built.

NEW RAILROAD IN SENEGAL.

(From United States Consul Strickland, Goree-Dakar, Senegal.)

The last rail has been laid on the road which now connects the river Senegal with the Niger. Trains on schedule time will soon be running over it.

When this road is in operation a vast region, with great resources for development, will be open for those who are well situated to profit thereby. Unfortunately, for lack of steamers engaged in the foreign trade, Americans can not be considered among these. French steamers of 1,500 tons can now, in the rainy season and for some time after, ascend the Senegal with their cargoes as far as Kayes (about 600 miles as the river runs), whence there is a railroad in operation to Bafoulabé on the same river. The extension of this line through a district which produces rubber and gold and is good for the cultivation of cotton and tobacco is truly an important event, especially when it is remembered that in the near future the whole distance from Dakar to the Niger will be covered by rail.

PETER STRICKLAND, *Consul.*

GOREE-DAKAR, SENEGAL, *June 1, 1904.*

RAILWAY ACCIDENTS IN THE UNITED KINGDOM.

(From United States Consul Stephens, Plymouth, England.)

The Board of Trade has recently issued a general report upon the accidents that have occurred on the railways of the United Kingdom during the year 1903. An explanatory introduction to the report states that it is intended in future years to distinguish between accidents which are or are not preventable by any measure which could be adopted either voluntarily by the railway companies or through administrative action by the Board of Trade.

More than half the accidents which occur on railways, the report says, whether to passengers or to railway employees, are due to want of common care and caution on the part of the injured people themselves.

The total length of the railways of the United Kingdom at the end of the year 1903 was 22,386 miles. The greater portion of this mileage was comprised in two or more lines of rails. During 1903, 25 passengers were killed and 769 injured in accidents to trains in the United Kingdom. Including all accidents occurring on the railway, though not connected with the movement of trains, the total is 123 passengers killed and 1,912 injured, and, including suicides and accidents to trespassers, railway employees, and others, the grand total is 1,159 killed and 6,785 injured. The total number of passengers traveling, exclusive of journeys by season ticket holders, was 1,194,833,000 for the year. Calculating the proportions on the basis of these figures, 1 in 47,793,320 passengers was killed, and 1 in 1,540,745 was injured in train accidents during 1903.

JOS. G. STEPHENS, *Consul.*

PLYMOUTH, ENGLAND, *June 10, 1904.*

CITY-OWNED STREET CARS.

(*From United States Consul Hamm, Hull, England.*)

Hull offers a good illustration of the merits and demerits of the policy of municipalizing public utilities, a policy which has been extensively put into practice during the past two decades in the cities of England. The results of such a concrete attempt to solve the city transit problem must be interesting to cities in the United States, and it must help them to reach a decision on this important question.

The fact that Hull did not enter upon this policy until some years after other English cities had municipalized their public utilities, and so was able to benefit by their experience, makes the result here all the more pertinent. It gives the most modern example of the kind in existence.

It is now five years since the movement for city improvement began to take shape in Hull. The city had been considered for generations one of the most uninviting in the United Kingdom. Although it is the third port in England in exports and imports, does the largest fishing business of any port, and is the chief place of entry on the east coast of England for the commerce of northern Europe, little was known about it.

The city was visited by few tourists except those seeking the most direct route to the Norwegian coast; but as these are few, and English public opinion appeared to agree in deriding the city, foreign travelers avoided it. The location of the city has something to do with this isolation. It is situated on the Humber River, a broad estuary of the North Sea, which juts inland in a westerly direction about 30 miles. Hull lies on the left bank, some 20 miles from the mouth of the Humber River, which forms an unrivaled port for shipping. The facilities offered for commerce are superior to those at any other port in England. It has a depth of water of 35 feet even at low tide, and the rise and fall of the tides here vary from 15 to 20 feet.

But while the Humber gives Hull superior communication with the sea it has shut it off from the direct line of railroad travel to London in the south and to Edinburgh in the north. Coming from the south the traveler must stop on the right bank of the Humber and be ferried across, or make a long detour by way of Doncaster and Goole to reach Hull by rail. If the Humber were bridged or tunneled and Hull were placed on the direct line of rail travel between London and the north, its period of isolation would be ended and the city would become one of the most widely known in England outside of London.

As a consequence of past policy, Hull was left in the rear of every other city of its size in England. Up to five years ago no public improvements of importance had been undertaken in a generation. The growth of the city was slow and forced, mainly because of local conditions. Its streets were narrow and badly paved. Its system of city transit was antiquated and inadequate to the last degree. It was, perhaps, as uninviting a place as could be found in Europe. But with the advent of the mayoralty of Sir Alfred Gelder in 1898 a new policy was introduced. The wand of progress seemed to pass over the city, and a transformation has taken place since which will surprise those who have not seen Hull in a decade. Broad avenues have been cut from the business center of the city to the corporation line; many new buildings have been erected; the streets have been paved in the best and most enduring manner; the car lines have been acquired and modernized; an unfailing supply of filtered drinking water has been introduced, and the dock systems have been improved and enlarged until the city to-day is one of the best, if not the best, provided with docks in England. As a result, the city's trade and population have rapidly increased. The population is now fully 250,000, and the docks and business streets give evidences of a healthful and growing prosperity.

The result of this change which interests us most now is the municipalization of the street-car system. Hull began the municipalization of its transit system at an unusually favorable time. The charters of the old companies were about to expire, so that there were few rights and privileges to be acquired. The total outlay of money for this purpose was about $170,000. At the same date the city was entering upon an extended system of street improvements. The streets were to be repaved and widened, and new avenues cut through the old part. It was thus possible to lay new tracks at the same time that new pavements were put down.

A statement of the street-car system would not be complete without a description of these city pavements. They are of the most enduring character and afford a foundation for the rails unequaled by anything of the kind that I know of in the United States. First a layer of chalk is put down ten inches thick. Over this is placed an 8-inch layer of broken stone and cement in which the ties for the stringers are laid, and on this layer are superimposed the blocks of wood or stone which form the pavement. The rails are of the center-groove girder pattern, weighing 96 pounds to the yard. This forms a track which for solidity and evenness can not be surpassed. Hull has now a little over 12 miles of such double track, and this number is being constantly added to.

One of the chief peculiarities of the Hull tram system is the double-decked car. All the cars, of which there are 116 in number, are of this pattern. In adopting the double-decker, however, Hull has only followed the style in use in every city in Great Britain and Ireland. Recent statistics show that of the 6,660 electric cars in use in the United Kingdom, 90 per cent are double-deckers and only 10 per cent are single-deckers. In this way the seating capacity of the cars is more than doubled, the upper deck accommodating more passengers than the lower deck. The Hull cars are of two sizes, the smaller seating 22 passengers below and 35 on top. This, of course, compels a heavier style of car and longer platforms, both at the front and rear, so as to prevent congestion in loading and unloading. These cars cost here about $3,000 each without the cover over the roof, which is now being added to most of them.

It is often asked why the double decker has never been adopted in the United States. Two or three reasons have been given for this neglect. One is the supposed confusion and delay caused on the platforms by passengers boarding or alighting from the car, part of whom enter or emerge from the interior and part from the upper deck. This objection has been greatly exaggerated. No such confusion, congestion, or delay is noticeable on the cars in Hull during even the busiest hours of the day. An investigation made of this question for the

Merchant's Association of New York by Mr. John P. Fox, and reported to the committee of engineering and sanitation, proved that this objection is untenable. It was shown by actual timing of the double-deck cars in Liverpool that the average time consumed by each passenger in getting on and off was about 1 to 9 seconds, whereas the length of stop for each passenger in American cities averaged about 2 to 8 seconds. The

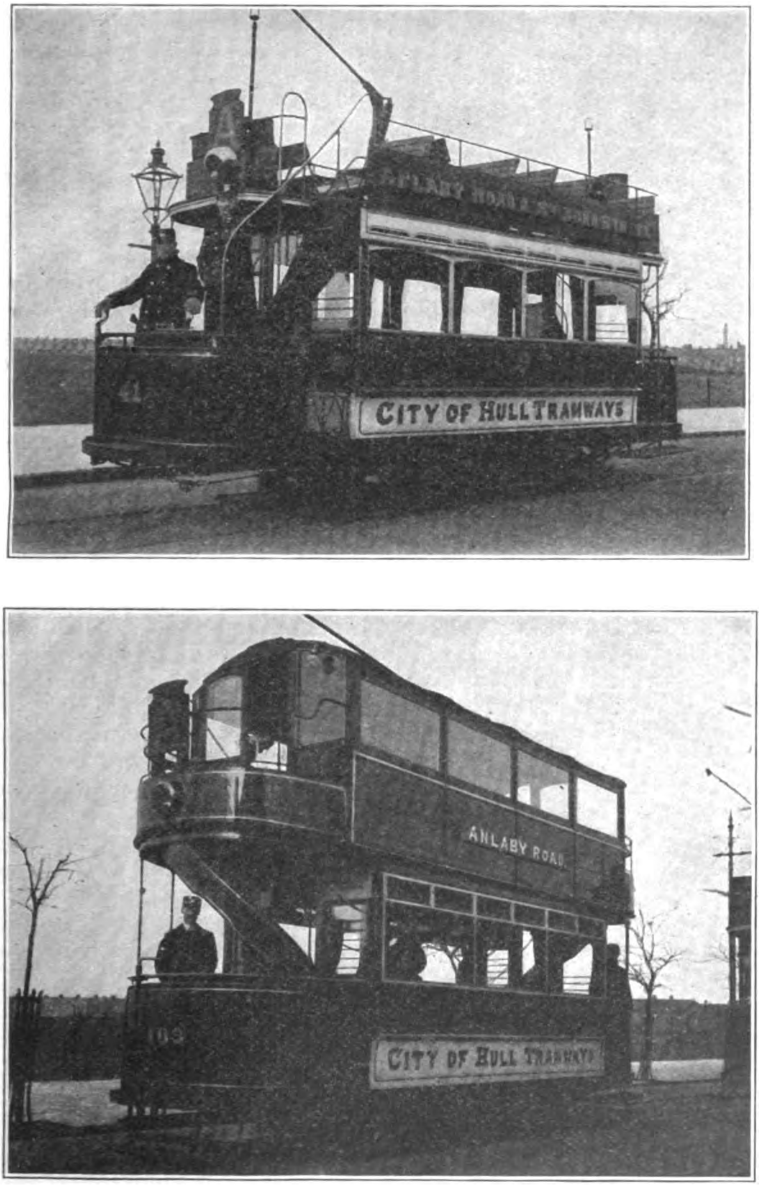

FIGURE 11.—Street cars in Hull, England.

longer time in the United States is explained by the difficulty passengers have in reaching the platform in the crowded, single-deck cars, the consequent delay more than balancing any congestion from the meeting of two streams of passengers on the platforms of the double deckers. This would seem to answer the first objection to the double-deck cars.

The second objection to the double-decker is that it is not adapted to the extremes of climate in the United States. In the heat of summer, it is argued, the passengers would be exposed to the burning rays of the sun, and in the winter to the cold blasts, and at all seasons to storms. This objection is apparently more tenable than the one based on alleged delay in loading and unloading. But it has been overcome by the roofing in of the upper deck with combined glass and wood covers. These protect the passengers from the weather as effectually as the inside passengers are protected. The roofs are of different styles and arrangements. They all have a fixed wooden framework, but in one pattern the side windows can be raised or lowered separately, while in the other pattern all the windows on both sides of the upper deck are raised and lowered together by a winch. The roof in both styles coils up like a roller-top desk, either in sections or as a whole. In one style of car the deck extends completely over both platforms, but in the kind used in Hull it is only a little longer than the body of the car. The inclosing of the upper deck would appear to overcome the climatic objection to this kind of car.

A third objection to the double-decker is the added weight and difficulty of handling them. How decisive this objection would be on roads in cities where there are heavy grades I do not know, but on level grades no difficulty is experienced. The cars are stopped and started as quickly and easily as the single-deck cars, and there are more slippery tracks to contend with in this country than in the United States, the fogs and rains causing wet and muddy rails much more frequently. The weight of these double-decked cars, with every seat occupied above and below, can not be much greater than the weight of crowded single-deck cars run on nearly every American street railway during the busy hours of the day. So this third objection to the double-decker vanishes.

One of the chief merits of the double-deck car is that it offers a smoking compartment for men with every car. Very few women climb the stairs, although they are easy of ascent and descent, and accidents from falling are so rare as to make them a negligible quantity. The "deck" is especially popular with the men, who can smoke as they will even if women are present, the free circulation of air removing all offensive odors. Another merit of the double-decker is its uses as an observation car, the pleasure of riding so far above the street with an extended outlook being great.

Next to the style of cars, the chief distinguishing feature of the Hull tramway system is the cheapness of the fares. These are 1 penny (2 cents) on all lines for all distances. The financial results of this low-fare system are equally interesting. During the latest twelve months reported on there were 10 miles of double track, or 20 miles of single track, in operation. The gross income was about $445,000; the cost of operation was about $233,000. This left a gross profit of $212,000, and, deducting interest on the investment and the sinking sum, a net profit of $122,000, or an average of over $12,000 a mile of double track, which went into the city treasury.

The wages paid look low to an American. Motormen receive from $6.75 to $8.50 a week and conductors from $5 to $6.50 a week. But it must be remembered that house rents and some kinds of provisions are lower in England than in most American cities. This difference might make it necessary to add $2 a week to the wages of Hull motormen and conductors when comparing them with the wages of the same class of American workingmen. But as the wages paid on the whole system amounted to a little less than the net profits, after deducting interest and sinking fund, it is evident that wages could be doubled and a small profit still be shown. All the employees are of an excellent class, fully equal in intelligence and efficiency to those employed on any street car line. A day's work consists of ten hours, the cars being run from 5 a. m. to 11.30 p. m. The speed varies in different parts of the city, the maximum being 12 miles an hour. The overhead trolley is used.

The popularity of the system can be judged from the fact that during 1903, with 10 miles of double track in operation, there were 22,062,703 passengers carried. As Hull has a population of 250,000, this means an average of 88 rides for every man, woman, and child in Hull. The length of track is being constantly increased, and all the leading streets will soon have car lines.

These are the results of the municipalization of city transit in Hull. They give American cities a striking proof of the mistake they have made in surrendering their streets to private companies that operate the lines for their private benefit, and often to the detriment of the public. If the advocates of the municipalization of street-car lines in the United States wish a good object lesson on their side of the question they can not do better than to study the Hull tramway system.

WALTER C. HAMM, *Consul.*

HULL, ENGLAND, *January 26, 1904.*

BRITISH COLUMBIA STEAMSHIP SERVICE.

(*From United States Consul Smith, Victoria, British Columbia.*)

VICTORIA-SEATTLE SERVICE.

One result of the sinking of the steamer *Clallam*, the regular daily transport between Seattle and Victoria, which occurred in January last with sad loss of life, was the establishment of an opposition line. A steamer built in Victoria and owned by the Canadian Pacific Railroad Company has since January made daily trips from Victoria direct to Seattle and return. The Alaska Steamship Company maintains its regular daily service, and since May 15 has run two steamers daily, both of which touch at Port Townsend and at Port Angeles en route. Consequently, since that time there have been three daily steamers between Seattle and Victoria.

The regular mail steamer of the Alaska Company is a fast and well-equipped vessel, giving general satisfaction to the traveling public. It is announced that on Monday, June 13, the Canadian Pacific Railway will put on the route their new steamer *Princess Victoria*, which is to make the extraordinary run from Vancouver via Victoria to Seattle and return each day. As it is 80 miles from Victoria to

Vancouver, and about the same distance from Victoria to Seattle, the trip contemplated necessitates a daily run of 320 miles, including stoppages at three ports. On and after the 13th steamers will leave this port for Seattle each day at 9 a. m., 7 p. m., and 8 p. m., reaching Victoria from Seattle at 5 a. m., 7 a. m., and 3.30 p. m. Thus communication between the Sound ports and Victoria will be more prompt and frequent than has ever been known heretofore.

STEAMSHIP LINE TO MEXICO.

It is proposed to secure direct communication between the ports of British Columbia and Mexico. The Dominion Government has resolved to grant for five years a subsidy of $50,000 to establish a monthly steamship service between Vancouver and Victoria, British Columbia, and the Mexican ports of Mazatlan, San Blas, Manzanillo, Acapulco, Puerto Angel, Salina Cruz, Tonala, and San Benito. The Mexican Government has also agreed to grant a subsidy of $50,000 per annum for this line. Tenders are now called for in the public prints, which state that the steamships employed are to class A1, to run under the British flag, to have a carrying capacity of not less than 3,000 tons, with adequate passenger accommodation; to maintain between ports a minimum speed of 10 knots. Tenders are required to be filed in Ottawa on August 1, 1904. Strenuous efforts are being put forth to have the steamers commence service the coming fall, as information received here is that the trade revival in Mexico is developing an immense business, of which the profits are as usual being reaped largely by Americans and American steamers.

An additional incentive to the efforts made to secure this Mexican connection arises from the fact that the demand for British Columbia coal has largely fallen off in the Californian markets, and it is hoped to secure an opportunity to dispose of the surplus coal, which is becoming a serious need in this province. Agents from the mining and other interests of the province are now in Mexico endeavoring to effect trade connections and to make business arrangements between Mexican and British Columbian ports.

ABRAHAM E. SMITH, *Consul.*

VICTORIA, BRITISH COLUMBIA, *June 10, 1904.*

NEW LINE FROM CALLAO TO HONGKONG.

(*From United States Consul Gottschalk, Callao, Peru.*)

A new line of steamships has been instituted to sail periodically from Callao to Hongkong and other China ports via Panama. The chief movers in the new enterprise are Lima merchants. Domingo Almenara, Fox, Leon & Co., and other (Chinese) merchants. Their first steamer, which left here May 23, is the *Kensington* (British), a chartered vessel of 2,246 tons. These steamers, which are to leave here either in ballast or with cargoes of cotton, but carrying passengers, are to return, after an absence of two to four months, with cargoes of rice and general merchandise from China. The *Kensington* carried 150 passengers (chiefly Chinamen) from Callao, and took on 50 more at Panama, where she touched May 28. The vessels of this line are intended to furnish a convenient and rapid mode of transit for the cargoes and passenger traffic now carried on between Callao and China by sailing ships.

In this connection it may be interesting to note that, although the rice produced in Peru (neighborhood of Chiclayo and other places) is generally conceded to be superior in quality to that brought from China, the former does not suffice by one-half to meet the local demand. This information may be of value to American exporters of rice.

A. L. M. GOTTSCHALK, *Consul.*

CALLAO, PERU, *June 1, 1904.*

LARGEST SAILING VESSEL AFLOAT.

(*From United States Consul-General Guenther, Frankfort, Germany.*)

The trip of the sailing vessel *Preussen*, which left its German home a year ago, attracts the liveliest attention.

Generally speaking, the opinion prevails that, on account of the progress made with steamers, sailing ships are doomed. For this reason the results of recent efforts to utilize large sailing vessels in transoceanic traffic deserves special mention.

The *Preussen* has storage room for over 5,000 tons of freight. According to reports it has fully justified expectations, and furnished proof that sailing vessels are not yet to be left out of consideration.

The trip from the canal to the Chilean port Iquique, a distance of 12,000 nautical miles, was made in fifty-seven days, a new record for sailing vessels being thereby established. It must be borne in mind that the weather was not always favorable, and that the trip around Cape Horn was extremely tempestuous.

The Paris Cosmos remarks, with reference to the voyage of the *Preussen*, that "if one considers the expenses of this vessel on such a trip, compared with those of a steamer, it becomes evident that sailing vessels will never disappear."

Only two obstacles are met, say German papers, in the employment of big sailing vessels: First, it is hard to secure assurance of a sufficient cargo; and second, it is difficult to secure a crew of sufficient skill. These obstacles are important, because sailing vessels, in order to be able to compete with steam, must be much larger than heretofore.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *June 8, 1904.*

NAVIGATION OF THE UPPER RHINE.

(*From United States Consul Gifford, Basel, Switzerland.*)

Freight traffic was resumed yesterday on the waters of the upper Rhine, from Strassburg to Basel, by the arrival at the latter city of a cargo of 350 tons of coal. This is the first arrival of merchandise by water in Switzerland for more than sixty years.

The voyage began at Ruhrort, a river port in the Prussian Rhine province, 375 miles from Basel, as distant as the seaports of Antwerp and Havre. The only real difficulty encountered arose from the obstacles presented by the ropes and chains securing the pontoons of the bridges, especially at Breisach and Hueningen. These difficulties could, it is alleged, be easily removed; and in that case the Rhine would be easily navigable during the high water of the summer months, even without the improvements of the channel so persistently and energetically advocated by Engineer Gelpke.

For the present it is proposed to continue the experimental trips which have been found practicable for small vessels without making any changes in either the bridges or the channel. It is even proposed to continue the water route 10 miles farther, to Rhinefelden. Abundant offers of return freight seem to assure the success of the modest enterprise.

For the moment this experiment has perhaps nothing more than a historical or sentimental interest for Americans, especially as such business as is now in progress is wholly in the interest of German coal and navigation companies. But ultimately, if the projected improvements are made, the utilization of the Rhine for freight transportation will not only be of the greatest industrial importance to Switzerland, but will be of incidental value to trade with the United States by enabling us to market our coal and other heavy products in the interior of Europe.

GEO. GIFFORD, *Consul.*

BASEL, SWITZERLAND, *June 3, 1904.*

SHIPPING THROUGH THE SUEZ CANAL.

The following statement, published in the Board of Trade Journal of April 28, taken from the Bulletin of the Suez Canal Company, shows the number and tonnage of vessels of various nationalities passing through the Suez Canal during the years 1901, 1902, and 1903:

Number and tonnage of vessels passing through the Suez Canal, 1901 to 1903.

Country.	1901		1902		1903	
	Ships.	Gross tonnage.	Ships.	Gross tonnage.	Ships.	Gross tonnage.
United Kingdom	2,075	8,651,015	2,165	9,333,996	2,278	10,215,252
Germany	511	2,452,423	480	2,371,046	494	2,464,493
France	281	1,158,077	274	1,174,036	261	1,186,844
Netherlands	230	709,548	218	727,943	223	770,576
Austria-Hungary	138	555,065	139	569,345	128	562,048
Russia	129	537,035	110	472,946	119	500,588
Japan	57	334,553	61	331,562	58	308,093
Italy	87	268,329	85	252,091	72	227,331
Spain	35	155,974	30	133,157	26	121,276
Norway	47	102,796	41	100,730	35	94,426
Denmark	20	76,178	14	55,702	11	53,749
Ottoman Empire	40	67,871	38	57,863	26	41,601
United States	25	65,923	21	67,996	12	34,945
Greece	6	11,617	14	25,370	7	11,890
Belgium	4	7,036	......	......	......	......
Portugal	6	4,339	3	4,306	3	2,879
Sweden	4	2,729	7	8,284	1	2,343
Argentina	1	1,777	......	......	......	......
Siam	1	521	2	1,172	......	......
Sarawak	1	365	......	......	......	......
Egypt	1	62	6	6,274	11	16,615
Persia	......	......	......	......	1	360
Total	3,699	15,163,233	3,708	15,694,359	3,761	16,615,309

STEAMSHIP LINE IN VENEZUELA.

(*From United States Consul Plumacher, Maracaibo, Venezuela.*)

A ten-year contract between the Government of Venezuela and Mr. H. Thielen, for the purpose of establishing a regular steamship line between the port of Maracaibo and Guiria, is announced.

It is said that the Hamburg South American Line has offered to build two large steamers for this trade, but up to date nothing has been definitely arranged. Passenger communication with the center and the east of Venezuela is by sailing vessels or by the American Red "D" Line steamers via Curaçao to Caracas. This new line will be of great benefit to passengers, as the steamers touch at most all the important ports on the coast of Venezuela from Maracaibo to Guiria, which lies nearly opposite the island of Trinidad.

E. H. PLUMACHER, *Consul.*

MARACAIBO, VENEZUELA, *May 30, 1904.*

FOREIGN INVESTMENTS.

(*From Schweizerisches Handelsamtsblatt, the official journal of commerce of Switzerland, of June 22, 1904.*)

ENGLISH FOREIGN INVESTMENTS.

Paul Dehn, in his book, New Formations in World Economics, says that no people have invested so much money in foreign countries as the English. Taking the income tax paid on foreign investments as a basis for measurement, and reckoning 5 per cent as the interest on investments, he finds that the amount of English capital in foreign investments is as follows: 1880–81, $2,856,000,000; 1890–91, $5,307,400,000; 1900–1901, $5,331,200,000; 1901–2, $5,950,000,000.

Nearly all other economists put the amount of foreign securities in the hands of the English considerably higher. Robert Giffen, the English statist, put them, about 1885, at $10,067,400,000. In his history of English trade Broemel put them, in 1899, at $9,520,000,000, and the income, 4½ per cent, at $428,400,000. In 1896 estimates made in the London Exchange put the amounts of English money invested in foreign loans at $14,280,000,000, in foreign railroads at $2,927,400,000, and in foreign mining shares at $190,400,000.

GERMAN FOREIGN INVESTMENTS.

After the reorganization of the Empire Germany was strong enough financially to take an active part in the foreign fields of finance. Still, in spite of its precipitate efforts, it is far behind England. According to estimates made by Schmoller and Christian (leading economists) in the exchange investigation of 1892, German capital to the amount of $2,380,000,000 was found to be invested in foreign countries, most of it in paper of doubtful value. Investment in exotic national loans began with a small loan to Portugal in 1885. From 1886 to 1891 the work went on with astonishing success and boldness, only to fall to pieces under the load of Argentina's financial difficulties. Then followed financial difficulties in Portugal and Greece. Large sums were lost in North American railroad securities, which had found favor from the middle of the eighties because they were believed to be beyond the pale of Europe's political and other evils. At first, accordcording to Christian's report, the Empire's business in exotic State loans and doubtful foreign investments was begun by its banks. The losses suffered were never known, nor was it possible to form anything more than fairly accurate estimates of them. German banks held $145,656,000 of Portuguese, $71,638,000 of Argentine, and $90,440,000 of Greek paper. In other words, during the period 1886–1891, $307,734,000 of German capital were placed in foreign securities of doubtful value. The agents profited, but the investors lost, for the Portuguese and Argentine securities fell off to one-third their par value and the Greek to one-half. Even if one admits that the securities were issued below par, and takes this difference into account, the loss to the investors was still nearly $166,600,000. By 1900 the total amount of German capital invested abroad in foreign securities amounted to $2,975,000,000. At that time German consuls were asked to report on the amounts of German capital invested in foreign industry and trade, including railroads. According to the consular reports, from $1,500,000,000 to $1,600,000,000 were thus invested: in South America, $476,000,000; in North America, $238,000,000; in Africa, $238,000,000; in Australasia, $178,500,000; in Central America, $158,700,000; in Turkey, $119,000,000; in Eastern Asia, $79,260,000; in India, $23,800,000.

In round numbers, then, the Empire had about $4,641,000,000 invested abroad, made up of investments in foreign bonds, government and railroad securities, bank stocks, and the shares of industrial companies.

FRENCH FOREIGN INVESTMENTS.

The amount of French capital invested in foreign countries, according to official information obtained about the middle of 1902, amounted to $5,712,000,000. Of this sum Russia had $1,332,800,000; Spain, $571,200,000; Austria-Hungary, $542,640,000; Italy, $276,320,000; England, $190,400,000; Germany, $16,184,000; Portugal, $171,360,000; Belgium, $114,240,000; Holland, $38,080,000; Switzerland, $85,680,000; Roumania, $83,300,000; Servia, $38,080,000; Greece, $53,550,000; Scandinavia, $103,530,000; Monaco, $29,750,000; Turkey, $411,740,000; Egypt, $271,320,000; Tunis, $97,580,000; British Africa, $304,640,000; United States, $114,240,000; Canada, $26,180,000; Mexico, $57,120,000; Argentina, $176,120,000; Brazil, $133,280,000; Chile, $42,840,000.

About $533,000,120 of French capital was employed in foreign industries, mining, and metal production. Russia led all countries in this use of French capital, with $149,940,000. The Transvaal had $285,600,000 in her mines, or rather in mining securities.

Oftentimes French capital has secured great financial and political results in foreign fields, particularly in North Africa and in the territory in the possession of the Turkish Empire. It was easy for France to take possession of Tunis after that country, under the leadership of its chiefs, had fallen heavily in debt to France. In Morocco, French capital is serving an end similar to that which it effected in Tunis. The building of the Suez Canal wrought a moral result in favor of France that enabled her, in connection with other French undertakings in Egypt, to acquire a position of tremendous influence. This she held for some time, but finally lost to England. In Turkey the French have built more railways than any other people, a total of 17,078 kilometers (10,612 miles), involving an outlay of capital amounting to more than $88,000,000. The harbor improvements in the most important Turkish cities, namely, Constantinople, Salonica, Smyrna, and Beirut, are in French hands. The success of the French lighthouse company in Constantinople has been brilliant. This company is giving the world a splendid system of light-houses along the Turkish coast. The first and strongest bank in Turkey, the Ottoman Bank in Constantinople, is working largely under French influence. The number of French commercial houses in Turkish cities is very considerable. The Corinth Canal was built by means of French capital, at great loss perhaps for those participating in its shares, and without very great importance to Mediterranean traffic. The continual influence of France in Austria-Hungary and Italy rests not least upon the investment of French capital in railroads, banks, and newspapers. The combination with Russia was undoubtedly cemented largely by means of French capital. It is an open question whether French capital is to continue to profit by this connection. Still the great investments of French capital in Russia are calculated to contribute their share in securing peace. If Russia continues to wage war large numbers of French capitalists will undoubtedly suffer. French diplomacy faces a situation in which it finds it best to favor the attainment of peace in order to secure parties investing in loans to Russia from the danger of great losses.

BELGIAN FOREIGN INVESTMENTS.

Belgian capital has been remarkably active and successful in foreign countries. It has done a great deal to develop foreign industries and transportation systems. According to official information the beginning of the twentieth century saw Belgian industrial leaders investing $5,232,000 in Germany, $4,284,000 in France, $8,092,000 in Portugal, $9,758,000 in Austria-Hungary, $12,614,000 in Italy, $16,422,000 in Spain, and $64,736,000 in Russia. Small investments were made in Servia, Roumania, Greece, Bulgaria, Turkey, and China. The investments in Germany were mostly in connection with horse railroads; in other countries they were used to establish a great many street railways and banks; in Russia they were largely invested in mining and in the metal industries.

AMERICAN FOREIGN INVESTMENTS.

The increase in the amount of United States capital invested in foreign countries has been surprisingly great. It has been used largely in the establishment of lines of transportation and factories. A great deal of it has found its way into England, so much so that that country is beginning to take alarm. No people have invested so much money in foreign parts as the English, and yet they are forced at present to submit to others investing in English cities. United States capitalists have established a great many concerns in the German Empire. The largest amount of United States capital, however, has found its way into Central and South American States, the investments in those countries amounting to hundreds of millions of dollars. It seems to be in a fair way to gradually attain a permanent influence in the industrial life of the Central and South American countries.

RESULTS OF FOREIGN INVESTMENTS.

The investment of national capital in foreign parts has, of course, great prospects of gain, but one must not forget that there are also great risks of loss involved. One must not fail to note that foreign capital invested in Russian industries has failed to obtain the profit that was looked for. According to a report from the French ambassador in St. Petersburg, $174,692,000 of Belgian capital, $167,314,000 of French, $62,118,000 of German, and $56,168,000 of English were invested in Russian enterprises. The German capitalists investing in Russian industries seem to have been the most cautious in making their investments of all participating, and it looks as if they might get a very considerable profit out of their investments. Of 148 Belgian undertakings in Russia, with a total capital of $117,810,000, which were in existence in 1899, only 73 made returns, and of these only 56 showed a net gain averaging 5 per cent, which, considering the risks and expenses, is hardly enough. The cotton and coal crises in south Russia, numerous strikes, the cessation of large orders from the State, united with other causes, have hindered the development and prosperity of many undertakings in that Empire.

Everything goes to show that the placing of national capital in foreign parts, when done hastily and thoughtlessly, or when carried too far, has its shady side, and should be considered very, very carefully. From time to time it has been said that German capital invested abroad is the worst enemy of the Empire's industrial efforts. German money and German engineers erecting factories and apparatus of all kinds in foreign countries have been regarded as hostile to the Empire's domestic development. German capitalists are obtaining vast tracts of fruitful territory in foreign parts, and are bringing back the products of these lands to compete in the German market with the home produce. This is the opinion of a large number of people, and yet it is not absolutely true. If one wants a correct opinion, one must distinguish between German capital invested in foreign parts bringing interest and profit to the investors and that class of German capital which has been carried out of the country by emigrants going into foreign parts. It is profitable for the home country, presuming that it has sufficient surplus capital for its own purposes, to make investments in foreign securities, in the bonds of foreign countries, in railroads and other stock companies. Such investments are never made, as a rule, except in cases where the interest and profit is larger than in the same kind of investments in domestic securities. It is to be regretted that banks have shown a greater desire for large profits than they have shown judgment in the matter of investments. Another objection to the attitude of the Empire's bankers must be made, namely, their indifference to the uses to be made of the capital when invested. While German bankers have seemed careless and indifferent, the English and French bankers have always put a provision in their contracts binding the borrowing State to give preference in the use of foreign material for the building of railways, etc., to the country or to the enterprises of the country making the loan. This has been carried to an incredible extent; indeed, a case is on record in which the French have built railroads in Servia with capital obtained in German banks. In connection with this the German economist says that while Dehn's work is worthy of a great deal of respect, one must be careful in the matter of investments to distinguish the conditions that make for so much in the success or failure of enterprises. One is not justified in lending money to notoriously irresponsible, degenerate people, unless these have an absolutely safe security to offer. In the past such loans have often been made because the bankers obtained large profits, but the interest in such cases was paid only so long as the borrowed money was there to secure it. Once that was gone, bankruptcy was the result, and with bankruptcy begins enmity toward the State lending the money.

SUPERHEATED STEAM FOR LOCOMOTIVES IN GERMANY.

(*From United States Vice and Deputy Consul-General Mason, Berlin, Germany.*)

Since the year 1898 the Prussian State railroads have been carrying on experiments with locomotives employing superheated steam, and these experiments have done much to elucidate and overcome the technical difficulties incident to the use of superheated steam by locomotives. While during the last ten years the utilization of superheated steam with stationary engines has become general in Germany, it has been employed only on a small scale, during the past few years, with locomotives. Owing to the great amount of power which a locomotive of limited size must produce, it is far less economical of steam than the stationary engine, whose bulk is subject to no limitation, and its steam is far more heavily charged with moisture, so that theoretically, at least, the advantages obtained by the use of superheated steam in locomotives should be greater than in stationary engines.

Superheated steam differs from ordinary steam in being a bad conductor of heat, so that it is not liquefied even when a considerable amount of its heat is given off in the cylinders, and the amount of heat lost by contact with the walls of the cylinder is much less than the amount lost by saturated steam, which is now used for the propulsion of locomotives. Superheated steam possesses the further advantage that it fills a greater space than the same amount of saturated steam at the same tension, the amount of superheated steam necessary to fill a cylinder varying in inverse ratio with the heat of the steam. These important advantages, the effects of which can be mathematically computed by aid of physical laws, have led to a long and persevering series of efforts to overcome the serious difficulty incident to the practical utilization of superheated steam. Between 1830 and 1840 attempts were made to utilize superheated steam with stationary engines, but the results obtained were unsatisfactory, owing to the fact that the materials used were not sufficiently durable.

The experiments of Hirn in the year 1850 were more successful, superheaters being constructed of cast iron, but the fact that the power of the superheated steam increased with its temperature had not been scientifically proved, and as the parts of the machine coming into contact with the steam were found to suffer when the temperature of 260° C. was passed, no higher temperatures were attained. It was left for Engineer Schmidt, of Wilhelmshöhe, to demonstrate that the use of highly superheated steam, at 300° and 350° C., materially reduces the amount of steam required, and that it can be used without injury to properly constructed machinery. At this time, something over ten years ago, materials sufficiently durable to withstand the action of superheated steam had been found, and a lubricating oil inflammable only at a very high temperature had been discovered.

The saving attained by the use of superheated steam with stationary engines has been so fully demonstrated by the practice of the last ten years that its use for this purpose has become general in Germany, and practically all new stationary machines are equipped with superheaters. One of the largest builders of steam machines in Germany claims a minimum saving of 15 per cent of the amount of coal consumed by the substitution of superheated for the ordinary saturated steam. In some instances it has been calculated that the saving is as high as 40 per cent. It has been demonstrated that a very material advantage is attained when the machinery and pipes are constructed and installed according to the most advanced principles.

While in the larger plants in the United States superheated steam has been introduced, it is far less extensively used than in Germany and other European countries.

Encouraged by success with stationary engines, Mr. Schmidt turned his attention to the technically more difficult task of utilizing superheated steam in locomotives. Steam is heated in the Schmidt superheater for locomotives by means of furnace gas introduced into an inclosed chamber (the superheater) by means of a large flue. The superheater, through which the hot air passes on its way to the smokestack, is circular in form and is located in the smoke box. In it are the pipes in which the steam is superheated, and they are so arranged that the steam coming from the boiler is made to pass three times through the superheater.

The first two engines equipped with superheaters, put into service in 1898 by the Prussian State railroads, are still running, and after various modifications had been made they gave, according to an official report, entire satisfaction, and are to-day considered two of the best twin engines for express and ordinary passenger service, in spite of the fact that they are in various respects not up to date in construction. The next order was for four twin locomotives in which the superheater was placed in the smoke box instead of in the boiler, and all of these engines have proved satisfactory, according to the report of Baurath Garbe, in respect to power, economy in the use of water and coal, and the ease with which they start. At present there are some 50 locomotives equipped with the Schmidt superheater in use or in course of construction for the Prussian State railroads, and all the different types of locomotives at present in use on this system are being tried with the Schmidt superheater. No official reports of the results obtained have been published more recently than 1902. In an article that appeared in Die Eisenbahn Technik der Gegenwart, a technical publication of high standing, published by C. W. Kriedel, of Wiesbaden, the results shown by the tests made public up to that time were summed up as follows:

> Superheated steam possesses properties that would, for technical and economic reasons, make its successful utilization on locomotives of material advantage.
>
> Locomotives using superheated steam under favorable conditions use 5 per cent less coal and 15 to 20 per cent less water than engines using saturated steam.
>
> Owing to its lightness, superheated steam is especially effective when the action of the piston is very rapid.
>
> A greater strain for a short time can be maintained by engines using superheated steam than by those using saturated steam.

Brückmann, one of the most indefatigable and exhaustive investigators, calculates that under normal conditions there is a saving of 20 per cent in an ordinary twin steam engine that employs superheated steam over one that does not, while the saving in coal is only one-half per cent when the work of a twin engine with superheater is compared with that of a compound engine without it. Owing to the difficulty of obtaining absolute accuracy, the results of the various tests of the efficiency of locomotives using superheated steam as compared with other engines have varied considerably, and there exists more or less difference of opinion as to the limit of economy in fuel and water that has been and is likely to be attained by the use of superheated steam.

It is the intention of Geheimrath Garbe, a constructing engineer of the Prussian State railroads who was responsible for the introduction of the superheater on that system, having devoted himself to rendering Mr. Schmidt's conception a practical success, to publish a report on it showing the result of the practice and experiments of the last two years, which will, he believes, triumphantly prove the great advantage of its use, but owing to various complications it is likely that considerable time will elapse before such a report appears, and in the meantime the reports made by the various railroad superintendents to the general management are not accessible. Personal investigation has, however, elicited the fact that a number of official reports of a favorable character on the work done by engines supplied with superheaters have been received. One of the most satisfactory of these reports relates to the work of two twin engines with superheater as compared with the work of two compound engines without it, the engines being of similar size and working for a year on the same track on alternate days, doing similar service. On one line the saving in coal of the twin engine over the compound engine was 6 per cent; on the second line, which ran through a somewhat hilly district, the saving in coal was 10 per cent. Furthermore, a second engine, which was needed to assist the compound engine over some steep grades, was not necessary with the twin engine, owing to the greater power obtained by the use of superheated steam.

Geheimrath Garbe claims that an increase of power of 30 per cent is attained by the use of superheated steam, but owing to the somewhat contradictory results obtained by different tests it is believed that absolutely accurate data as to the extent of the increase of power do not exist. The testimony of the Prussian railroad authorities tends, however, to show that it is very considerable. The saving of coal has been 20 per cent where the work of twin engines of the same type has been compared, but the highest economy in coal consumption obtained by the Schmidt superheater on a twin engine, when its work is compared with that of a compound engine, is 10 per cent. As the compound engine with four cylinders is of more complicated and expensive construction than the twin engine, the results given are very favorable.

Geheimrath Garbe maintains that in considering the question of expense the twin engine with superheater should be compared with the compound locomotive. He maintains that the use of the compound engine has been rendered desirable only by the defects of ordinary steam, that with highly superheated steam the simpler and less expensive twin engine, working with steam at much lower pressure, is capable of taking its place for all purposes, and that it will be possible by the use of superheated steam to reduce the types of engines used in Germany to five or six. He asserts that while the compound engine is more economical, is capable of attaining greater speed, and is more powerful at high speed than the twin engine when ordinary steam is used by both engines, the advantages of the compound engine disappear when it is compared with a properly constructed twin engine using superheated steam at from 300° to 325° C. He bases his judgment on experience obtained on the Prussian railroad and on the inherent superiority of highly superheated steam.

Scientific investigation has established the fact that the volume of steam superheated to 300° C. is 25 per cent greater than that of ordinary steam, that it increases as the temperature rises, and that at a temperature of 300° C. the deposit of moisture, which reduces the weight of the ordinary steam in the cylinders by one-third, is avoided.

The most recent trial that an engine equipped with the Schmidt superheater has undergone was at the high-speed steam locomotive tests made on the track between Marienfelde and Zossen, when an engine built by the firm of Borsig and equipped with a Schmidt superheater made a speed of 128 kilometers (79½ miles) with a full train of six cars, and a speed of 136 kilometers (84½ miles) an hour with a train of three cars, the energy developed being about 2,000 horsepower. The Borsig engine, unlike the three other engines, was not built specially for these trials, but only one of its competitors equaled it in speed.

Mr. Borsig, the head of the firm of A. Borsig, one of the most important steam-engine factories in Germany, which has constructed about one-half of the locomotives equipped with the Schmidt superheater for the Prussian Government, but which has no financial interest in that device, stated in a personal interview that in his opinion the Schmidt superheater has ceased to be an experiment; that its industrial value has been established. He also stated that the favorable showing of his engine at the high-speed trials at Zossen could not have been obtained if the Schmidt superheater had not been used.

While the Schmidt superheater has hardly been in use long enough to show just how great the wear and tear on the machinery owing to the use of superheated steam will be, the Prussian railroad officials are satisfied with the way in which the parts coming in contact with it have kept in order on the engines at present in service.

It is likely that the Schmidt superheater would have been adopted already on a much larger scale were it not for the opposition which it has encountered from the partisans of other superheaters. Encouraged by the success obtained by Schmidt, other inventors have taken up the same line of work and have produced superheaters of varying degrees of practicability. Of these the Pielock is the one that has received the most attention in this country, and would appear to be the most serious competitor to the Schmidt invention. It consists of a chamber or metal box located in the boiler, from which it is separated by a metal wall through which the boiler flues pass. The interior of the superheater is divided up by walls in such a manner that the steam in passing through the different subcompartments is made to circulate along the boiler flues. Owing to the risk of injury to the flues, it has not been found desirable to place the superheater too close to the furnace. The temperature in the furnace flues is reduced by passing through the water of the boiler, and the temperature attained by the steam in the superheater is from 230° to 260° C.

As will be seen by the foregoing, there exists a radical difference between the Schmidt and Pielock superheaters. While in the former the steam is heated to from 300° to 350° C. by means of one large flue, which conveys part of the furnace gas to the superheater chamber, in the Pielock system all the furnace gas is passed through the superheater by means of the boiler flues, the steam being heated only from 230° to 260° C.

In all some ten engines have been or are to be equipped with the Pielock superheater by the Prussian State railroads, but it has not been possible to obtain satisfactory information as to the results recently obtained. Only old engines have been experimented with, one of the principal advantages of the Pielock over the Schmidt superheater being that old engines can be equipped with it without expensive alterations. In order to equip an engine with a Schmidt superheater capable of giving the steam a high temperature it is necessary to enlarge the smoke box in order to make room for the superheater, and in case the superheater is made smaller, the old smoke box being retained, it is possible to obtain only moderate temperatures, similar to those obtained by the Pielock system.

The Saxon and Austrian Government railroads are also experimenting on a small scale with the Pielock superheater, the rights to which have been acquired by the Maschinenbau Actien Gesellschaft at Hanover, but the only official tests of engines provided with it that have been made public took place on the track between Breslau and Glogau, where the work done by two engines with superheaters and two similar ones without them was compared, each engine making ten trips over the same track on alternate days. One of the Pielock engines attained an economy of 14.7 per cent in coal and 18 per cent in water, while the economy achieved by the other engine was far less important. It is understood that the results obtained since, which have not been made public, are very contradictory. In view of the many factors that are likely to influence tests of this kind, technical men are extremely conservative in accepting their results as conclusive, and it will probably take considerable time before the efficiency of the Pielock superheater will be satisfactorily demonstrated.

It is claimed for the Pielock superheater by its inventor that it can be used on old as well as new locomotives, as it can be adjusted to any boiler, and that no loss of power is entailed, as, owing to the greater efficiency of the superheated steam, the space taken up in the boiler is more than compensated for; that owing to the simplicity of construction of the Pielock superheater it is cheaper than any other type, costing from $450 to $600 only for a 2- to 4-cylinder Prussian express locomotive; that with it there is no loss from radiation, as any heat lost in the superheater raises the temperature of the water in the boiler; that it is less subject to repair than any other superheater, and needs no special cleaning other than the cleaning of the boiler flues, which would have to take place anyway; and that no extra labor is entailed on the part of the locomotive engineer.

A long and somewhat acrid controversy has been carried on in the technical journals of Germany as to which of the rival systems is based on the right principle, and opinions vary widely as to the results obtained by them.

It is claimed by the adherents of the Schmidt system that it is impossible to obtain sufficient increase in efficiency with the moderate temperature attained by the Pielock superheater to justify its use; that frequent repairs to the furnace flues passing through the superheater will be inevitable; that they can not be examined without being taken out; that this involves serious damage to the superheater and to the walls to which they are made fast; and that a flue thus removed can not be used again.

The partisans of the Pielock system claim, on the other hand, that the large furnace flue used in the Schmidt system is likely to leak where it is connected with the superheater; that the highly superheated steam is very injurious to the machine parts which it comes in contact with; and that too much heat goes out of the chimney.

Only a technical expert with ample opportunities for actual observation could form an opinion that would be of value as to the merit of these claims, but there can be no doubt that the Schmidt superheater has been far more thoroughly tested and that it has been used longer and more extensively than the Pielock device.

In a ministerial decree of February 3, 1903, expert evidence as to whether moderately superheated steam could be employed advantageously in compound engines was called for, and a large amount of testimony bearing on the use of moderately superheated steam and, incidentally, on the advantages of the Schmidt and Pielock systems, was submitted, together with a report by an official committee of investigation which answered the various questions propounded by the ministerial decree. This report, which is exceedingly technical in character, is far too exhaustive to be embodied in a consular report, but contains some information and conclusions that are highly instructive. Much evidence was given as to the degree of concentration of steam necessary to prevent the deposit of water in the cylinders when moderately heated steam is used. According to some investigators this objectionable action occurs in the low-pressure cylinders of locomotives using steam of 250° C., but no absolute conclusions were reached by the investigating committee. In answer to the question whether it was possible to obtain satisfactory economy of fuel and efficiency by using temperatures up to 250° C., the report stated that the use of highly superheated steam, at 300° C. and over, was necessary to high efficiency; that excellent results had been obtained by twin engines with steam at 300° C., and that the decrease of coal consumed as the temperature was raised from 320° to 350° C. was very remarkable. It was reported that the Schmidt superheater could be used satisfactorily for moderate temperatures, in which case its size could be reduced.

It was also reported that the use of auxiliary engines for upgrades had in different instances been obviated by the use of engines equipped with Schmidt superheaters. The report contained a very exhaustive examination of the evidence at hand as to the relative merits of 2 and 4 cylinders, the conclusion being drawn that 4 cylinders are not essential to smooth action. The continuation of investigations as to the efficiency of the Pielock superheater with compound engines was advised, it being reported that while economy was obtained by its use no material increase of efficiency had been established. While it is possible that the Prussian railway experts may be favorably influenced toward the Schmidt superheater by the fact that its practical application has been developed under their auspices and by the very considerable opportunity for observing it that they have enjoyed during the last six years, it is believed that the favorable nature of this report is entitled to very great weight. Far greater conservatism exists in Germany than in the United States about making expenditures for improvements the value of which has not been absolutely proved. It would seem very likely that the unbiased opinion of the manufacturer, Mr. Borsig, that the value of the Schmidt superheater has been demonstrated, is correct.

While differences of opinion may still exist as to what type of superheater is the best, the patient investigation and experiments that have been carried on in Germany have established the fact that superheated steam can be used with locomotives as well as with stationary engines. When the much greater efficiency of superheated over ordinary steam is taken into consideration there seems strong reason to believe that the success already obtained by the stationary engine will be repeated with the locomotive—that materially superior economy in power will be attained by the use of superheated steam, which will in time come into general use for locomotives.

So far as is known, there is only one locomotive using superheated steam in America, and it is equipped with a Schmidt superheater and is being experimented with by the Canadian-Pacific line. It is believed that it is well worth the while of American technical and railroad men to give careful consideration to the experience obtained by the Prussian State railroad in the utilization of superheated steam on locomotives, and to examine the locomotives equipped with the Schmidt and Pielock superheaters that are being exhibited at St. Louis.

The following literature is recommended to those desiring to make further investigations: Special Reports of Zeitschrift des Vereines deutscher Ingenieure; Die Anwendung von hochüberhitztem Dampf (Heissdampf) im Lokomotivebetriebe nach dem System von Wilhelm Schmidt in Wilhelmshöhe bei Cassel, by Garbe (Berlin, 1902); Zur Frage der Anwendung der Dampfüberhitzung im Lokomotivebetriebe, by Otto Berner (Berlin, 1903); Vergleichende Versuche mit gesättigtem und mässig überhitztem Dampf an Lokomotiven, by Strahl (Berlin, 1904); Consular Report of April 20, 1904, from Berlin, relative to high speed tests; and the article already mentioned in Eisenbahn Technik der Gegenwart of the year 1902. The first three reports may be obtained by writing to the Verein Deutscher Ingenieure, Monbijou Platz 3, Berlin.

DEAN B. MASON,
Vice and Deputy Consul-General.

BERLIN, GERMANY, *May 13, 1904.*

DUTIES OF AUSTRO-HUNGARIAN CONSULS.

(From United States Consul-General Guenther, Frankfort, Germany.)

The minister of foreign affairs of Austria-Hungary recently issued a circular letter of instructions to the consuls of that Empire, in which he laid particular stress on the importance of the energetic intervention which consuls are expected to make in aid of home business interests, especially in cases where the individual efforts of the Austro-Hungarian merchant, promoter, or exporter have been insufficient to secure success in foreign countries.

The consuls are called upon to give active help to the export interests of their country in cases of dispute or differences on the part of the foreign customer about Austrian consignments; to assist in the collection of claims against foreign debtors and bankrupts; to use their full moral influence in favor of their country's industrial interests when opportunities offer abroad for disposing of goods, for obtaining contracts, for the construction of works, industrial plants, etc., and the furnishing of supplies.

In a second circular letter of instruction the minister directs the consuls to be prompt in acknowledging the receipt of letters or applications that have arrived from home inquirers. When the wishes of the writers can not be complied with at once, the reasons must be stated and the writers informed when they may look for information as to their inquiries, particularly in cases when the consul requires time to make necessary researches.

The growing competition in foreign markets and the constantly increasing need of securing them, so as to dispose of surplus home products, induce the manufacturers of the various industrial countries to get the aid of their governments; hence the consul is expected to act as a pioneer or pathfinder; he is also to do the work of the canvasser and commercial agent. But the consuls are as a rule not fitted or equipped for this mission, nor will their official duties allow them to give that care and close application to mercantile exploits which alone lead to success.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *June 24, 1904.*

COPPER PRODUCTION OF THE WORLD.

El Economista Mexicano, June 11, says:

The following figures are taken from a circular published by Messrs. Henry R. Merton & Co., London. Some of the figures are official and others are very close estimates; those for the United States are according to the Engineering and Mining Journal. The quantities are expressed in tons of 2,240 pounds.

Copper production of the world in 1902 and 1903.

Country.	1902	1903
	Tons.	*Tons.*
Africa: Cape Colony	4,450	5,230
Asia:		
Japan	29,775	31,360
Australasia	28,640	29,000
Europe:		
Austria	1,015	1,055
Hungary	485	330
England	480	500
Germany	21,605	21,205
Italy	3,370	3,100
Norway	4,565	5,915
Russia	8,675	10,320
Spain and Portugal	49,790	49,740
Sweden	455	455
Turkey	1,100	1,400
South America:		
Argentina	240	135
Bolivia	2,000	2,000
Chile	28,930	30,930
Peru	7,580	7,800
North America:		
Canada	17,485	19,320
Mexico	35,785	45,315
Newfoundland	2,000	2,060
United States	292,870	298,650
Total	541,295	565,820

NOTES.

Consular Reports and Foreign Journals.—To what great extent the consular reports of the United States serve the interests of other countries may be noted from the fact that on one page of an eight-page supplement to a German export journal containing twelve articles under the caption "Hints for export," five articles are translations of American consular reports, while among other articles in the supplement one is based on a report of the Bureau of Statistics and three others on consular reports, in which the method employed in publishing consular reports daily and gratis is most highly commended.—*Walter Schumann, Consul, Mainz, Germany, May 27, 1904.*

Counterfeiting American Products.—American products find such a ready market in Hungary that they are often imitated (counterfeited is a better word) by unscrupulous persons. I am writing by this mail to a Boston house notifying it that its well-known brand of patent-leather polish is now being counterfeited and sold by a dealer—one Weinberg—of this city. I would most earnestly recommend that our exporting manufacturers be publicly advised to patent or register the trade-marks of their special products. All patenting and registration for Hungary can be done here in Budapest, and I will always be glad to render whatever aid I can to our manufacturers in this connection.—*Frank Dyer Chester, Consul, Budapest, Hungary, May 18, 1904.*

Engineering Contracts Awarded in Mexico.—Messrs. Weisel & Kok, of Parral, Chihuahua, Mexico, have obtained a contract for the construction and equipment of electric lighting, waterworks, and telephone systems at Jimenez, Chihuahua, Mexico. Further information concerning this contract may be obtained from the firm direct.

The Mexican Construction and Engineering Company of Mexico City has recently obtained a contract for waterworks and drainage systems at Jalapa and Cordoba, State of Veracruz, Mexico. Information concerning this contract may be obtained direct from this firm; address, Centro Mercantil, Mexico City, Mexico.—*Edward M. Conley, Vice and Deputy Consul-General in charge, Mexico City, Mexico, June 11, 1904.*

Catalogues wanted for Reading Room of Consulate at Bogota, Colombia.—This consulate-general has recently received a great many requests for catalogues of various kinds of American goods, such as watches, knives, shoes, rifles, shotguns, revolvers, and all kinds of sporting arms and ammunition, engineering goods, and drawing instruments.

I have established a public reading room here, which is open to the public from 2 to 4 o'clock each afternoon except Saturday and Sunday. If American manufacturers and merchants will send me their different catalogues they will be placed on file in this room, and it will be seen that the greatest good possible results therefrom.—*Alban G. Snyder, Consul, Bogota, Colombia, May 26, 1904.*

Foreign Trade of Australia and New Zealand.—The imports of Australia and New Zealand in 1903 are valued at $400,670,000 and the exports at $462,125,000. In the import trade the colony of New Zealand participated to the amount of $63,940,000 and in the export trade to the amount of $75,050,000. The balance fell to the six States comprising the "Commonwealth of Australia." The latter also exported $17,375,706 net in coin and bullion.—*Richard Guenther, Consul-General, Frankfort, Germany, June 18, 1904.*

Personal Efforts Win.—In a late report the British consul-general at Hankau says:

> It appears that the Germans and the Belgians have secured all the contracts awarded by the Chinese authorities for supplying machinery to the arsenals, mines, and iron works.
>
> The English firms are themselves to blame for thus remaining empty-handed. In this as in numerous other cases it is owing to their indolence that their competitors carry off the prizes. Occasionally English firms send price lists to this consulate, requesting their transmittal to suitable parties. But they are not aware of the fact that the Chinese authorities prefer dealing directly with the contractor or manufacturer in person. When it is desired to obtain government contracts here, then properly accredited representatives must personally negotiate with the chiefs of the governmental bureaus and give to the latter full information on all points concerning British productions.

The remarks of this British consul apply with equal force to American exporting interests.—*Richard Guenther, Consul-General, Frankfort, Germany, June 24, 1904.*

Steamship Line between Canada and Mexico.—The companies interested in the establishment of a line of steamships between Canada and Mexico, by way of the West Indies, have decided to petition the Dominion government to place a small duty on all products from British possessions into Canada by way of any foreign country. The object is to secure for Dominion ports the Canadian trade of the British West Indies. Interested parties are convinced that the success of the Canada-Mexico line will depend entirely on getting this trade. There is a small duty on coffee that is brought into Canada by way of the United States, and the desire is that the same rate of duty be placed on bananas, oranges, and sugar.—*W. R. Holloway, Consul-General, Halifax, Nova Scotia, June 23, 1904.*

Decrease in Swiss Exports to the United States.—According to the Berlin Nachrichten für Handel und Industrie, the exports from Switzerland to the United States for the first four months of 1904 amounted to only $5,833,425, against $7,136,462 for the same months in 1903, a decrease of $1,303,037. While the loss is shared by all Swiss industries the principal decreases occurred in silks from Zürich and laces from St. Gall, $675,500 and $579,000, respectively. Noticeable decreases occurred in machinery, woolen and cotton goods, cheese, clocks, chocolate, and straw braid. The silks and half silks exported to the United States during the first four months of 1904 were valued at $807,486, against $1,083,502 in 1903; the ribbons at $173,314, against $579,000 in 1903. The total exports of silk productions of all kinds, including floret silk, amounted to $1,332,858 in 1904, against $2,018,204 in 1903, a decrease of $685,346.

American Dentists Suffer in Venezuela.—Venezuela has passed a law that foreigners who "come to the Republic and want to be admitted into its territory are obliged to present to the highest civil authority of the place where they arrive the documents identifying their personality and attesting good conduct, signed and legalized by the authorities of the last place from which they come."

American dentists who came here without passing an examination before the board of dentists at Caracas (they had practiced their business without any molestation at Caracas for months) were the first to suffer by this law.—*E. H. Plumacher, Consul, Maracaibo, Venezuela, June 8, 1904.*

Methods of increasing Export Trade to Honduras.—American representatives abroad have often asserted that the best way for American manufacturers to increase their export trade is to follow the example of European manufacturers and grant longer credits. I am convinced that this is not the best thing to do, at least as far as the Republic of Honduras is concerned. The additional accounts that might be obtained by granting longer credits would not be considered desirable accounts by good business men. The best means of increasing trade are, in my opinion, first, to pay strict attention to the instructions of the purchaser, carrying them out to the letter in every detail; second, to pack better; third, to use great care in the preparation of invoices; and, fourth, to reduce petty charges for packing, baling, drayage, etc.—*Wm. E. Alger, Consul, Puerto Cortes, Honduras, June 22, 1904.*

Ice Plant in Durango.—An American firm, Messrs. W. B. Depew & Co., has secured from the government of Durango a concession for an ice and cold-storage plant, and in connection therewith the manufacture of butterine. The ice plant will have a capacity of 3 tons daily. The cold-storage space to be built has not yet been announced. The concessionaires are builders and contractors themselves and will construct the building. They have not yet decided on the installation of machinery. There is an old ice plant in this city now with a supposed capacity of 6 tons daily, but actually of less than half that capacity. What process the concessionaires will follow in the manufacture of butterine is not known. The principal cotton district of Mexico is in this State, and cotton-seed cake and oil are easily obtainable. These may be used.—*James A. Le Roy, Consul, Durango, Mexico, June 15, 1904.*

Consuls have no Funds to Relieve Indigents.—An idea which seems to have obtained general credence in the United States is that if an American abroad finds himself stranded he can always get home by applying to his consul. Where or how this idea originated is unknown, but it seems to be possessed by at least 95 per cent of all Americans who travel abroad. Every means available should be used to correct it. The widest possible publicity should be given in the American press to the fact that American consuls abroad have no funds with which to relieve indigent Americans or to send them home. Americans should understand fully before leaving home that they do so at their own risk, that they must expect favors from nobody in foreign countries, that they are likely to encounter hard knocks, and that they must be prepared to receive them. If the American is to become a world wanderer he should observe the methods of his European cousins, who expect to depend upon their own resources under all conditions and circumstances.—*Edward M. Conley, Vice Consul-General, Mexico City, Mexico, June 13, 1904.*

Commercial Use of Consular Reports.—Consul-General Richard Guenther, Frankfort, Germany, sends the following note under date of May 25, 1904.

The German journal World's Commerce contains the following:

> A leading English trade journal makes comparison between the commercial use of consular reports in the United States, England, and Germany, and comes to the following conclusion:
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> The American system of publishing consular reports daily has undoubtedly proved very efficient and compares favorably with ours, in which only one official yearly report is published from each consular district. The bureau which publishes the American consular reports renders a great service to the commercial world. It not only gives publicity to everything of value from the consular reports but collects information itself and publishes quite frequently articles from foreign newspapers.
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> Another good feature of the American system is that all printed matter, if asked for, is furnished to Americans interested free of charge, while in England the consular reports have to be ordered and paid for in advance.
>
> Germany is very cautious with reference to the consular reports and is very solicitous that all communications of value should reach only interested German circles. The important parts of the consular reports are therefore not given to the public, but are sent separately to the chambers of commerce, which for this purpose are considered official bodies.

Importance of Knowing Foreign Languages.—A very prominent German newspaper, the Cologne Gazette, contains a noteworthy article, which says, in part:

> At this time, when there is so much complaint about inability to satisfy the numerous applications for employment in the public service, we deem it well to point out that the development of the German Empire occasionally creates new professional lines which, though known to but few, offer to young men favorable opportunity to enter the service of the State and obtain therein a comfortable living with the prospect of promotion. The relations of the German Empire with China have recently made it necessary to establish new consulates and to increase the working force of those already existing there. The most desirable candidates for these posts are young men who (having performed their one-year's volunteer service in the army) have, during their university course of study, acquired a knowledge of the Chinese language at the Oriental Seminary. [There is such a seminary at the Berlin University.] The usual term for the study of that language is, for law students, two years; for those devoting themselves exclusively to the study of Chinese, twelve to eighteen months. Under normal conditions, a law student 21 or 22 years of age can, by serving the German Government in China, secure a well compensated and financially independent position with favorable chances for rising in the consular and eventually entering the diplomatic service, and also a position to represent abroad other German interests.

The above is worthy of consideration not only because it denotes the aim of Germany to exploit the great Chinese field, but also because it shows the excellent methods used by the Germans to obtain influence in foreign countries. The German Government, as well as the German manufacturing and exporting classes, know by experience that the mastery of the language of the foreign country which they want to bring under their influence is an essential requisite for their representatives abroad. Because of this knowledge the acquirement of the difficult Chinese tongue is deemed obligatory for German representatives in China. With very few exceptions the German consular and diplomatic officers command the language of the foreign country in which they are located.—*Richard Guenther, Consul-General, Frankfort, Germany, June 22, 1904.*

Russia Increases Duties.—Russia has put an increase of 20 per cent on the import duty on animal fats, fish oils, olein, spermaceti, and stearin, white and red lead, and sheet iron of all kinds. A new export duty of 77.2 cents a pood (36 pounds) has been imposed on rubber waste, consisting principally of old rubber overshoes.—*Ethelbert Watts, Consul-General, St. Petersburg, Russia, June 24, 1904.*

Silk Cocoons in Servia.—Silk cocoon cultivation is becoming one of Servia's national industries. Last year there were collected in that kingdom 345,000 pounds of silk cocoons. The government is distributing free of charge the eggs of the silkworm.—*Richard Guenther, Consul-General, Frankfort, Germany, June 4, 1904.*

Indo-China Cigars.—The first Indo-China cigars have recently been shipped to Paris by an Algerian. They are manufactured from transplanted Habana tobacco plants, which are said to have become perfectly acclimated. The product is pronounced of splendid quality.—*Thornwell Haynes, Consul, Rouen, France, June 14, 1904.*

Duty on Coffee in Panama.—Under date of July 1, 1904, the Secretary of State advises the Department of Commerce and Labor that, by a decree dated May 5, 1904, the Republic of Panama has imposed a duty of 8 pesos per quintal ($3.22 per 220 pounds) on all coffee imported for consumption. The law goes into effect ninety days after the date of its promulgation.

Steamers from Sweden and South Africa.—According to the Swedish Export, a new line of steamers is projected for the trade with South Africa. Two steel ships, of 5,500 tons each, are being built in England for this line. Both are to be ready before the end of October, 1904. As soon as ready both boats are to gather cargoes at Göteborg and other Swedish ports. At present the intention is to run these boats alternately every tenth week.

Waterworks in Mexico City.—The City of Mexico proposes to construct waterworks to increase the present water supply. Further information may be obtained by interested persons from Ing. Manuel Marroquín y Rivera, care of Dirección General de Obras Públicas, Mexico City.—*James Russell Parsons, jr., Consul-General, Mexico City, Mexico, June 24, 1904.*

Microbe of Malaria.—Doctors Montoya and Flores, of Medellin, Colombia, announce that they have discovered the true microbe of paludism (malaria), and that it can be cultivated in mediums prepared with flowers of *Erythrina umbrosa ducara*. The official report has been sent to the Academy of Paris. Should this be true it will be of great interest to the sanitary board of the Panama Canal.—*E. H. Plumacher, Consul, Maracaibo, Venezuela, June 12, 1904.*

German Steel Trust.—The representatives of the different German steel manufacturers in London, all of whom are members of the German steel trust, have agreed upon the opening of a sales agency in London, from which to control the steel trade of the world. The English office is under the management of a limited company, and the shareholders are members of the different steel trusts of Germany.—*James H. Worman, Consul-General, Munich, Germany, May 25, 1904.*

European Freight Rates to Argentina.—The Zuid-Amerika-Lijn, of Amsterdam, Holland, is responsible for the announcement that its steamers, which ply between Amsterdam and Argentine ports, are the only ones which are not included in the Europe-South American shipping pool, and further, that its through freight rates upon many classes of goods from Hamburg, as well as all inland places, to Argentina are about 50 per cent cheaper than those quoted by any of the lines belonging to the pool.—*B. H. Warner, jr., Consul, Leipzig, Germany, May 31, 1904.*

Water Paints in Mexico.—Mr. Paul D. McQuiston has petitioned the Mexican Government for the exclusive right to manufacture an article in pulverized form that, when mixed with cold water only, possesses not only all the advantages of an oil paint, but is even superior to oil paint in a tropical climate. The dry colors are to be manufactured in all desirable shades.—*W. W. Canada, Consul, Veracruz, Mexico, June 15, 1904.*

Fire Insurance at Cost in Canada.—During the recent annual meeting of the Nova Scotia Manufacturers' Association it was announced that measures were being taken to establish a department of insurance which would furnish fire insurance at cost to members. The annual income of the fire insurance companies in Canada is $4,000,000, of which amount more than 35 per cent is paid in dividends and agents' salaries.—*W. R. Holloway, Consul-General, Halifax, Nova Scotia, July 2, 1904.*

Greek Light-House and Anchorage Dues.—The bill to increase the "light-house and anchorage dues" by 30 per cent passed the Greek Chamber of Deputies a few days ago. The proceeds of this increase are to be applied to the treasury of the national fleet. This increase is not general, however, as it is 20 instead of 30 per cent in the case of vessels belonging to companies which have agreements to carry Greek mails, and is only 10 per cent in the case of such vessels when call is made regularly at Greek ports as often as once a week.—*John B. Jackson, Minister, Athens, Greece, June 21, 1904.*

Alcohol from Peat.—A company has recently been organized at Rendsburg, Prussia, for the purpose of distilling alcohol from peat. The company is now building a distillery which it hopes to be able to put in operation sometime during the month of July, 1904. By its process the company will be able to distil alcohol from peat more cheaply than it can be obtained from other substances, and will, therefore, be able to sell its product for fuel purposes. It will also be in a position to do an export business.—*S. P. Warner, Consular Agent, Gera, Germany, May 21, 1904.*

Cotton Mills Close in Canada.—It is reported from Montreal that at a meeting held in that city on the 17th instant, at which the Merchant's Company, the Canada Colored Cotton Company, the Dominion Cotton Mills Company, and the Montreal Mills Company were represented, it was decided, on account of fluctuations and high prices in the raw-cotton market, to close the mills belonging to these companies on or before July 1. The companies named produce a very large proportion of the cotton goods manufactured in Canada.—*John G. Foster, Consul-General, Ottawa, Canada, June 18, 1904.*

Wheat Yield in Nova Scotia.—The experimental farms carried on under the direction of the Dominion department of agriculture give the results of experiments with wheat in the maritime provinces and in Manitoba. Out of 58 varieties tested at the experimental farms at Nappan, Nova Scotia, and Brandon, Manitoba, there were 40 in which the maritime farm gave the better results, that is, more yield to the acre and heavier grain. Over two-thirds of the varieties were more successful in Nova Scotia than in Manitoba.—*W. R. Holloway, Consul-General, Halifax, Nova Scotia, June 20, 1904.*

Milking Cows by Electricity.—In the newly invented apparatus for milking cows by electricity rubber hoods are attached to the udder of the cow. These hoods are connected with a vessel for receiving the milk by means of a rubber tube, from which the air is exhausted by means of the electrical device. It is claimed that the suction thus secured resembles very closely the sucking of a calf, and that for this reason the cow "lets down" her milk more freely than when milked by hand. It is also claimed that absolute cleanliness of the milk may be secured when this method of milking is employed.—*S. P. Warner, Consular Agent, Gera, Germany, May 24, 1904.*

Drying Copra in Samoa.—The copra dryers in Samoa all use the hot-air system. Air is heated in a fireplace and conducted through iron pipes which cross and recross the lower part of the building; the end of the pipe is generally turned into a smokestack. The drying is caused by a continuous current of air admitted through ventilators in the side of the building at its base. This air is warmed in passing the heated pipes, and then passes through and dries the trays of copra, and is drawn out at the roof by another set of latticed ventilators.—*George Heimrod, Consul-General, Apia, Samoa, May 20, 1904.*

Somnoform, a New Anæsthetic.—Consul-General Richard Guenther, Frankfort, Germany, sends the following note from the London Daily Mail of May 25:

> Medical men and nurses abounded at yesterday's opening of the Medical Exhibition. One stall contained nothing but samples of a new anæsthetic, which bears the restful name of "somnoform," a liquid the boiling point of which is 23° below zero. The moment it comes in contact with the air it becomes a gas. The exhibitor broke a glass capsule of "somnoform" to illustrate its character. As soon as the glass was chipped there was a rush of what looked like steam, and 7d. worth of "somnoform" was loose in the Queen's Hall trying to asphyxiate the exhibitors. Its great virtue, from a medical point of view, is that breathing stops before the heart when it is administered.

Ship Lines to Africa.—Twenty-one steamship lines connect with the port of Durban, Natal, South Africa, among which are four from New York—the Prince, the Bucknall-Currie, the Clan Union American, and the Houston lines.

There is also the Canadian and African Steamship Line running between Canada and South African ports. During the year 1903 794 steamships, with 1,821,245 tonnage, and 158 sailing vessels, with 157,973 tonnage, entered the port of Durban.—*Richard Guenther, Consul-General, Frankfort, Germany, June 28, 1904.*

Stamping out Consumption in London.—Consul-General Richard Guenther, of Frankfort, Germany, sends, under date of June 20, 1904, the following extract from the London Daily Mail:

> When the London county council general powers bill came before a committee of the House of Commons yesterday clauses were passed providing that when a veterinary surgeon inspecting a cow shed or dairy has reason to suspect that a cow is suffering from tuberculosis the London county council may order it to be slaughtered. If after its death the cow is found to have been healthy, the London county council shall pay as compensation the full value of the cow before slaughter and all reasonable expenses. On the other hand, if the cow is found to have suffered from tuberculosis, the council shall pay three-quarters of the value. The maximum compensation is to be $146.

Rolling Stock of Austrian Railways.—The rolling stock of the Austrian railways and Austrian railroad-car-loaning companies has been lately returned as follows: 5,913 locomotives, 4,624 tenders, 383 snow plows, 15,213 passenger cars, and 140,024 freight cars. When these returns are compared with those of June 30, 1903, there appears an increase of 36 locomotives, 43 tenders, 46 snow plows, 264 passenger cars, and 1,711 freight cars. Of the total, 26 passenger cars and 4,909 freight cars belonged to private parties, and 1,612 freight cars were hired by the various railways, partly from Austrian and partly from foreign railroad-car-loaning companies.—*Urbain J. Ledoux*, *Consul*, *Prague*, *Austria-Hungary*, *May 26*, *1904*.

Ankylostomiasis in Cornwall.—The London Daily Mail reports that while investigating the symptoms of ankylostomiasis, a disease which since 1902 has swept with epidemic force through the Cornish tin mines, Doctor Boycott, who has been pursuing his studies in the Gordon Laboratory at Guy's Hospital, has himself become a victim. Some of the larvæ which he was cultivating found their way into his system.

The disease is a tropical importation, and is due to the presence in the body of what is known as miner's worm, which causes severe anæmia. It is, however, only in constant reinfection that danger lies. Science has thus far been unable to furnish any remedy that can stay the havoc amongst miners of this peculiar and devastating malady.—*Jos. G. Stephens*, *Consul*, *Plymouth*, *England*, *June 10*, *1904*.

School for Cab Drivers.—Consul-General Richard Guenther, Frankfort, Germany, sends the following note from the London Daily Mail of June 2:

> The Austrian Government has sanctioned the proposed system of training cabmen by which the Vienna Cab Proprietors' Association hopes to produce the ideal driver.
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> Every cabman seeking a license will be obliged, writes our Vienna correspondent, to pass an examination in the following subjects: the horse and how to treat it; harnessing and driving; topography of Vienna and description of interesting buildings, etc.; politeness.
>
> These subjects will be taught in a three-months' course of lessons. Not only will the professor of "politeness" give instruction in good behavior, but he will teach short phrases and descriptions of objects of interest in foreign languages. It is also hoped that in this class the driver will be taught to ask for his exact legal fare and accept it with a pleasant face.

Italy's Citrus Fruits.—Italy's last crop of citrus fruits (lemons, oranges, mandarines, pomegranates) amounted to 5,250,000,000 fruits, exceeding the crop of the preceding year by 350,000,000. The number of fruit-bearing trees was 16,700,000.

Its exportation of citrus fruits amounted to 3,095,860 metric hundredweight in the year 1903. Of these 844,329 hundredweight went to Austria-Hungary, 726,327 to North America, 605,414 to Great Britain, 326,230 to Germany, and 279,328 to Russia. The cultivation of citrus fruits is extending in southern Italy and on the island of Sardinia, but is steadily diminishing in central and northern Italy.—*Richard Guenther*, *Consul-General*, *Frankfort*, *Germany*, *June 4*, *1904*.

Coal from and to Canada.—The exportation of Canadian coal to the United States for the nine months ending March 31, 1904, was 1,046,388 tons, against 1,470,854 tons for the corresponding period of 1903. Canadian imports of anthracite coal from the United States for the same time aggregated 1,235,361 tons, a gain of 533,426 tons over the corresponding period of 1903. During the same time Canada imported from the United States 3,275,475 tons of bituminous coal, a gain of 630,347 tons over the corresponding nine months of the previous year. During the month of May the coal shipment from Halifax was 195,000 tons.—*W. R. Holloway, Consul-General, Halifax, Nova Scotia, June 23, 1904.*

World's Production of Quinine.—According to a report by the director of plantations of quinia for British India, the Madras Government manufactured in 1902 15,711 pounds of quinine and Bengal 11,297 pounds, a total production for India of 27,008 pounds. The island of Java produced and exported 43,750 pounds.

The different countries producing the bark exported in 1902 the following quantities: Java, 14,726,000 pounds; India, 1,020,000 pounds; Ceylon, 407,000 pounds; South America, 775,000 pounds; Africa, 178,872 pounds; a total of 17,106,872 pounds.

There are twenty establishments in the world manufacturing quinine, distributed as follows: 5 in France, 3 in England, 2 in Germany, 2 in Italy, 1 in Holland, 4 in America, 1 in Java, 1 in Bengal, and 1 in the Madras Presidency.—*R. M. Bartleman, Consul, Cadiz, Spain, June 13, 1904.*

Germans in Palestine.—Industrial conditions in Palestine have suffered severely from the loss to labor, caused by a steady stream of emigration of Palestine's people to other parts of the earth. An exception to this rule is presented by the parts of Palestine in which Europeans have settled. In these the land has been made to yield not only larger but fairly profitable harvests. To the German colonists a great deal of credit is due for their success in proving that a great future awaits the agriculturalist and horticulturalist who goes to work in the right way in Palestine's fields and among its vineyards and orchards. A German colony that settled on the heights at Haifa thirty-four years ago has prospered. Not one of its 90 families is poor. All are fairly well to do. They have raised grapes from Affentaller and Riesling, scions from which a wine free from alcohol is made. This is sold to the natives, and serves as a very refreshing drink..

Algerian Corkwood.—During the fiscal year ended June 30, 1903, corkwood to the value of $90,000 was exported from Algeria to the United States. The indications are that the amount will be larger this year.

It would be well for American importers to make careful examination of corkwood from this country for appearances of fungous growth, which affects the bark of cork trees to a large extent. It is not believed that this disease impairs the fiber of the material, but it produces an unpleasant taste when the corks are used for bottling. If the corks are sterilized they lose their power to impart a bad flavor.—*Daniel S. Kidder, Consul, Algiers, Algeria, June 6, 1904.*

Prussian War Department to Manufacture Sausages.—The Prussian war department has decided to establish a sausage factory at Spandau, a very important Prussian fortress near the city of Berlin, in order to supply the garrisons of Spandau and Doeberitz with sausages. The buildings which are necessary in connection therewith will be erected near the Spandau city slaughterhouse. The sausage factory will be in charge of the commissary office of the war department, which is also contemplating establishing other such factories in those cities where large bodies of troops are quartered. By manufacturing the sausages itself the war department will be able to see that only the most wholesome meat is used in their manufacture, thus taking another precaution to insure the very best possible physical condition of the soldiers.—*Southard Parker Warner, Consular Agent, Gera, Germany, June 2, 1904.*

Canadian Flour in Bermuda.—The Maritime Merchant contains an interview with Mr. W. T. James, the largest importer of Canadian flour at Bermuda, in which he says: "Canadian trade with Bermuda is steadily increasing, and although dissatisfaction with the quality of Canadian goods is sometimes expressed, yet on the whole the connection is being more firmly established."

Importations, he said, have not fallen off, and he is still drawing the bulk of his flour supplies from Canada. Other merchants who formerly purchased wholly in New York have, during the last year or two, begun to handle Canadian flour on a large scale.

Mr. James thinks that the future for Canadian products in Bermuda is bright, but he also says that some Canadian exporters are very careless in making shipments. Bad packages, careless marking, and sometimes indifference to orders at the moment they arrive, all stand in the way of conducting an export trade with success to all concerned.—*W. R. Holloway, Consul-General, Halifax, Nova Scotia, June 20, 1904.*

Protection of Birds in Mexico.—An agitation has been on foot for some time looking to the passage of a law to prevent the wanton destruction of birds throughout this country; in fact, a proposed law has already been presented to the Government by the "Association for the Protection of Birds," and it is confidently expected that it will meet the approval of the Executive. This law is intended to prevent the killing of certain classes of birds useful to the agriculturist. Other kinds, such as for instance game birds, may be killed only at stated periods of the year. All birds of prey, and others destructive to the interests of the farmer, may be killed at any time and by anybody. Such a law, if rigidly enforced, can not fail to be of great benefit to the people of the United States, as for instance in the case of migratory birds that winter in Mexico, or even farther south, and that return to the north in the proper season if not killed off in the meantime.—*W. W. Canada, Consul, Veracruz, Mexico, June 15, 1904.*

German Paper in Argentina.—According to the official statistics the Argentine Republic imported $1,689,698.60 worth of paper during the year 1903, which is $97,465 more than in 1902. Paper was imported for the most part from Germany, England, France, and the United States. Printing paper comprised the most important part of the German trade.

It would seem as if the United States manufacturers of printing paper had, during the past year, ceased entirely to even attempt to compete with the German printing-paper syndicate in the Argentine markets. Germany's exports of paper to the Argentine Republic during the first four months of 1904 were more than twice as large as they were in the first four months of 1903, or of any previous year. Argentina ranks now only after England, Holland, and Belgium as a purchaser of German paper.

It is very astonishing that Germany should wrest a foreign market for wood paper from the United States, where wood is so much cheaper and more plentiful. Perhaps it is owing to the fact that the transportation facilities are such as to give the German manufacturers a decided advantage.—*Southard Parker Warner, Consular Agent, Gera, Germany, June 4, 1904.*

Asphalt Mines in Venezuela.—According to a contract just published here the Government of Venezuela grants to Mr. Andres Espina the right to exploit four asphalt mines, three in the district of Perija and one in the district of Maracaibo. The Government is to receive 25 per cent of the net proceeds. The contract is to run for twenty-five years from the day that a certain railroad is built, but nothing about the railroad contract has been published. The mining code does not mention any special percentage to be paid to the Government, and it must be presumed that the railroad contract gives enough special benefit to enable the contractors to give the 25 per cent of the net proceeds demanded. As there are plenty of asphalt mines here which have no such extra burden as this 25 per cent, it is hardly clear how these will ever become remunerative.—*E. H. Plumacher, Consul, Maracaibo, Venezuela, June 15, 1904.*

Changes in Canadian Tariff.—A number of important changes have just been made in the Canadian tariff by the Dominion government. Among the most important differences announced is the placing of printing presses and various other machinery, including all for the manufacture of linen and brass goods, and also well-drilling machinery, on the free list. In general, all machinery not manufactured in Canada is placed on the free list, as also is whale oil, soap, etc.

An important requirement is attached to the tariff law, intended to reach articles imported into Canada at less price than said articles are sold in the country where they are manufactured.

It is also announced that on all crude petroleum produced from wells in Canada a bounty of 1½ cents a gallon will be paid after June 8, 1904.—*Abraham E. Smith, Consul, Victoria, British Columbia, June 20, 1904.*

Preservation of Butter.—The French National Society of Agriculture has recently received from one of its members an interesting communication on the preservation of butter by fluoride of sodium. The writer says this substance is not hurtful unless administered in doses of some 30 grams (463 grains) a day for animals weighing 125 pounds. From one-quarter to 1 gram (1 gram = 15.43 grains) in a pulverulent state suffices for 2 pounds of butter, which it will preserve indefinitely. It is stated that the strength of the fluoride, so far as its effect upon the health is concerned, is diminished one-half by mixing. If, however, it retains its full strength, no inconvenience can result, as many physicians prescribe as much as 40 centigrams (6.16 grains) every twenty-four hours in order to regulate digestion.

It is further stated that the fluoride can be used only in infinitesimal quantities, as more than half a gram (7.7 grains) to a pound of butter renders it unpalatable, but that instead of making the butter indigestible and less nutritive, the fluoride, when used properly, is considered an aid to digestion.—*Thornwell Haynes, Consul, Rouen, France, June 15, 1904.*

Watches and Clocks in Roumania.—Nachrichten für Handel und Industrie, June 4, says:

> A good harvest in 1902 afforded Roumania an excellent opportunity to add to her annual purchases in foreign countries. While all lines of trade felt the effect of this good harvest, watches were very favorably affected. The trade in gold watches and gold chronometers was 3,125, 3,068, and 785 during the years 1902, 1901, and 1900, respectively. Of the 3,125 watches imported in 1902, Switzerland supplied 2,781 and Germany 135. The number of silver or other metallic watches was 30,144, 22,242, and 13,468 in the same years. Of the 30,144 imported in 1902, Switzerland supplied 23,906, France 3,082, Austria-Hungary 1,655, and Germany 1,045. The number of wall clocks and music boxes imported in 1902 is given only in weight, viz, 13,529 pounds. Of these Germany supplied 8,337, Austria-Hungary 2,683, and Switzerland 979 pounds. Of the so-called Black Forest clocks (Schwarzwalduhren) 35,501 pounds were imported in 1902, of which Germany furnished 25,853 pounds and Switzerland 4,980 pounds. A very noticeable gain in gold watches has been observable in recent years. Importations of this class of goods into Roumania from Switzerland have trebled in three years.

While commenting favorably on the trade outlook in Roumania, the Nachrichten advises German merchants to make sure that they know how good or bad is the credit of those to whom sales are being contemplated.

Danzig's Commerce Suffers.—Danzig is another place in Germany to be affected in a detrimental way by the Asiatic war. The large exportations of Russian sugar to Japan, via Danzig, which only commenced last year, have stopped altogether since hostilities began. The traffic from Danzig over the Russian frontier also shows a considerable decrease, especially in materials for the leather industry, while the textile industries of Lodz have, up to the present time, not suffered as much. Again, the suspension of the building operations on the Lublin-Lemberg Railroad and the work in connection with the correction and regulation of the Weichsel River are also causing the commercial interests of Danzig much concern.

As regards the loss of Japan as a market for Russian sugar one would think that the beet-sugar interests of the Western States of the

United States would be able to furnish Japan with the quantity of sugar which it no longer imports from Russia, if beet sugar is required; or that the sugar manufacturers of Hawaii or the Philippine Islands could do so if cane sugar can be substituted. There appears to be no reason why Japan, which has already become an important market for American sugar, should not purchase in even larger quantities than she did last year.—*Southard Parker Warner, Consular Agent, Gera, Germany, June 1, 1904.*

Internal-Revenue Tax on Tobacco in Mexico.—On July 1, 1904, the following new regulations will go into effect in Mexico:

All foreign or native manufactured tobacco, such as selected leaf, granulated, long cut, or chewing, must be put up in sealed packages and a special internal-revenue stamp must be affixed to each package, the value of the stamp being governed by the weight of the package, in accordance with the following scale: 100 grams (1 gram = 15.43 grains) or less, net weight, 2 cents; more than 100 and up to 250 grams, 5 cents; more than 250 and up to 500 grams, 9 cents; more than 500 grams and up to 1 kilogram (2.20 pounds), 18 cents. Snuff of native manufacture is taxed double the amount, and if it is not put up in sealed packages its sale will be prohibited.

For all imported tobaccos of the classes previously mentioned revenue stamps of the same relative value but printed in a different color are to be used. The revenue stamps required will be of double the value of those required for tobacco of native manufacture. Foreign snuff also must be packed in the manner prescribed for the native article, and pays double the amount in revenue stamps.

Our exporters of these classes of manufactured tobaccos to Mexico would do well to consider the advisability of mutual concessions in this matter, and to give careful attention to the requirements of packing.—*W. W. Canada, Consul, Veracruz, Mexico, June 12, 1904.*

Russian Cotton Industry.—Nachrichten für Handel und Industrie, June 4, says:

> In Vestnik Finansov there is an article entitled "The need for cotton, and measures to secure Russian cotton for Russian cotton mills." From the article in question the following figures are taken: In 1900 there were in Russia 730 cotton mills, with 279,590 horsepower, 339,903 employees, and pay rolls amounting to $33,902,069. The cost of erection of these mills was $127,104,214, and the product was valued at $268,066,821. For comparison the figures for the same period for other leading industries of Russia are also given. Animal products were valued at $57,110,513; wool, $86,090,644; articles for consumption, $185,693,757; metals, $191,545,958. The largest number of employees is found in metal works, namely, 240,907.
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> The cotton used in the Russian factories during 1900 came from the following sources: America, $41,072,434; Egypt, $10,711,330; East India, $1,017,949; Persia, $2,843,984; middle Asia, $27,865,156; Caucasia, $2,023,332; other sources, $2,507,329, making a total of $87,591,514. It is estimated that in 1903 there was consumed in the cotton mills cotton to the value of $97,850,000.
>
> From 1890 to 1900 the amount of cotton consumed in the mills increased from 300,733,008 pounds to 587,888,915 pounds. America can not show such an increase, even with an increase from 2,367,000 bales to 3,727,000 bales during the same period.
>
> Russia must use her utmost endeavors to make herself independent of the American cotton market, and in this work Russian cotton mills should assist.

Germany's Trade with Canada.—The surtax levied by Canada on importations from Germany has cut seriously into that country's Canadian trade, but has helped that of the British West Indies. British colonies in the West Indies are now the chief source of the Canadian raw sugar supply. For the nine months ending March 31, 1903, Canadian importations of raw sugar from Germany amounted to 150,000,000 pounds; during the nine months ending March 31, 1904, they amounted to but 530,000 pounds. On the other hand, the quantity of raw sugar imported from British Guiana and the British West Indies increased from 40,000,000 pounds for the nine months ending March 31, 1903, to 162,000,000 pounds for the nine months ending March 31, 1904.

Reductions have also taken place in importations in other lines from Germany. For the nine months ending March 31, 1903, the total dutiable goods entering Canada from Germany amounted to $7,776,205. During a similar period terminating March 31 last they fell to $5,076,383, a decrease of $2,699,822. In March, 1903, Canada took $928,831 worth of German dutiable goods; in March, 1904, only $491,440 worth.—*W. R. Holloway, Consul-General, Halifax, Nova Scotia, June 22, 1904.*

Act Regulating Immigration into Panama.—The Republic of Panama recently passed an act on general immigration, to become law July 12, 1904, which provides that all foreigners over 18 years of age who come to the Isthmus with the purpose of remaining in the country shall pay a tax in the current money of the Republic at the date of their coming, as follows: first-class passengers, $4; second-class passengers, $2. The act provides that the owner or agent of any steamship or vessel in which the passenger arrives shall pay the tax within twenty-four hours after the passenger is landed. In case of failure or refusal to pay said tax said owner or agent shall pay a fine of $4 for each passenger so landed. The act also prohibits the landing of lunatics, dangerous maniacs, idiots, professional beggars, anarchists, criminals, individuals of bad conduct, tuberculous persons, lepers, epileptics, and all who have a contagious or repugnant disease. The physician of the port is charged with enforcing this part of the law, and anyone who evades the law clandestinely is subject to a fine of not less than $200 nor more than $800.—*H. A. Gudger, Consul-General-Panama, Republic of Panama, June 27, 1904.*

Piræus Dry Docks.—In the year 1900 the building of two large dry docks was commenced at Piræus, Greece, and in the autumn of 1902 I was informed from what I then considered reliable sources that the two dry docks were nearing completion and would be finished within a few months. Now we are informed by the Greek press that the two dry docks have been but partly built. Some say that the company which contracted to erect the docks has failed, while others assert that it is only temporarily embarrassed by the flooding of the partly constructed docks by subterranean springs, and that as soon as it can get the water pumped out and the leaks stopped it will proceed with the work.

The administrative commission of the port of Piræus advertises for bids for the completion of the two docks. It seems that the port commission has not the money to pay cash for the construction, and therefore offers the party or parties who may wish to contract to build the docks a percentage of the tariff or fees that may be collected from vessels entering these docks for a certain term after their completion. The commission declares that it "does not exclude offers for the completion of the two docks for a certain sum of money."—*Daniel E. McGinley, Consul, Athens, Greece, June 11, 1904.*

Sanitary Measures for Paris.—The Daily Messenger of Paris, of June 15, says that the prefect of the Seine has just issued a decree which is likely to have far-reaching effects on the health of Paris. By this decree a commission composed of eminent scientific men is appointed to study the city's drainage, particularly that part of the system which affects the rivers from which a portion of the water supply is obtained. The commission will also have controlling powers over the action of the city officials in all matters coming within the scope of their inquiry. Further, a small commission, consisting of M. Roux, director of the Pasteur Institute; M. Calmettes, director of the Pasteur Institute at Lille; M. Adolphe Carnot and M. Michel Levy, the well-known scientists, is appointed to control the sources and distribution of the water supply. "In future," says the Messenger, "we shall not be called upon to drink, without knowing it, the impregnated water of the Seine, turned into the mains through the inadequacy of the regular supply or through the caprice of some careless official. The sanitation of the districts from which the regular supply of drinking water is obtained will also be carefully looked after by the commission, and rewards will be offered for the prompt notification of cases of infectious disease within the area. In short, a determined effort is to be made to eradicate the causes of the typhoid scourge which has claimed so many victims in Paris."—*Richard Guenther, Consul-General, Frankfort, Germany, June 17, 1904.*

Potato Culture in England.—Writers on agricultural topics for British newspapers continue to devote a good deal of attention to potato culture and to the prominence it has obtained owing to the interest in and the high prices paid for certain new varieties. The agricultural writer of the Birmingham Post told some weeks ago of the success of Mr. M. Wallace, of Dumfrieshire, a farmer who uses the boxing system of preparing potato seed. In a lecture on the subject Mr. Wallace gave it as his experience that the yield per acre of potatoes had been increased by 2 or 3 tons, owing to the acceleration in maturity of early potatoes by sprouting them in boxes in the winter or early spring. Mr. Wallace is an advocate of frequent change of seed and of planting big, good potatoes. It is noteworthy that the change he advocates, and which his hearers approved, was from a high altitude or a cold, wet climate to a warmer locality. A very interesting point was touched upon by the lecturer in respect to the use of immature tubers for seed. He declared emphatically that the best and most robust crops are obtained from seed of this description, and cited in support of his argument the popularity of Scottish seed, which is seldom matured.—*Marshal Halstead, Consul, Birmingham, England, June 22, 1904.*

German Electric Industries.—The second part of the annual report of the Frankfort Chamber of Commerce for the year 1903 has just been published. It includes a statement made by the Lahmeyer Electric Company that "the increased activity of Germany's industries during 1903 has had a corresponding effect upon the company's business and that of the electric branch of Germany generally."

This, however, did not bring about the longed-for advance in prices and profits, as competition continued exceedingly keen. Many orders were filled without profit, and many times goods were sold for less than the cost of production.

The reason for this is to be found in the efforts of the great electric companies to give as much employment as possible to their plants, which had been considerably extended and enlarged.

Another cause was "the competition arising from the growth of native electric industries in many foreign countries which heretofore had been profitable markets for German electric goods. The strong efforts made by these domestic electrotechnical works to crowd out German supplies compelled German exporting concerns to offer exceedingly low terms in order to maintain their footing in these foreign countries. The high price of raw materials was also an obstacle under the above-noted business conditions. The prices of some of the raw materials advanced toward the close of the year; among these were copper, brass, and dynamo wire. Owing to the establishment of a trust the price of incandescent lamps has been raised 50 per cent."—*Richard Guenther, Consul-General, Frankfort, Germany, June 8, 1904.*

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58th Congress, 2d Session — HOUSE OF REPRESENTATIVES — Document No. 784

DEPARTMENT OF COMMERCE AND LABOR

BUREAU OF STATISTICS

No. 287

Monthly Consular Reports

AUGUST, 1904

WASHINGTON
GOVERNMENT PRINTING OFFICE
1904

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MONTHLY CONSULAR REPORTS.

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JAPANESE BLOCKADE OF THE LOWER LIAOTUNG PENINSULA.

The Department of State has transmitted, under date of July 23, to the Department of Commerce and Labor a copy of a dispatch from the American minister to China (Mr. Conger) inclosing the following translation of an article published in a Chinese newspaper, declaring a blockade of the lower portion of Liaotung Peninsula. The minister's dispatch is dated Peking, June 11, 1904:

> The Japanese consul at Shanghai announces the blockade of half of the Liaotung Peninsula in a dispatch to the customs taot'ai of Nankin:
>
> "I have received telegraphic instructions from Baron Hsiao Ts'un, of the Japanese foreign office, saying that Admiral Togo, in obedience to orders from the Japanese Government, has made a proclamation to the effect that the Japanese squadron has blockaded the lower half of the Liaotung Peninsula, and that such blockade was begun on the 26th of May. This applies to all ports south of a straight line drawn from P'itzuwoa to P'ulantien, and all ports in that district are effectually blockaded, and, moreover, this blockade will be maintained. Having received the above instructions it becomes my duty to communicate with your excellency immediately, and I would ask that you transmit the information to your superior officers, and also publish proclamations for the benefit of the general public. I would add, moreover, that our navy has already established a blockade over the ports in the district mentioned, and boats that attempt to resist it will be apprehended and dealt with according to the rules of international law, irrespective of who they may be.
>
> "As in duty bound, I make this announcement that the taot'ai may be informed of the matter and act accordingly."

COMMERCE OF SAMOA.

(*From United States Consul-General Pitcairn, Hamburg, Germany.*)

The total imports of merchandise and specie into Samoa in the year 1903 amounted to $638,174, an increase of $67,424 over those of 1902, in which year the total imports were valued at $570,750. The value of goods imported from Germany was $178,501; from Australasia and Polynesia, $335,038; from the United States, $106,310; from Great Britain, $6,110; and from other countries, $12,215. The leading places among the merchandise imported are taken by (1) food products, the value of the imports of which amounted to $183,624, and (2) textile and dress goods, the imports of which were valued at $139,874.

The exports of agricultural products from Samoa show a decrease of $73,148 in 1903, in a total of $329,512; in 1902 the exports amounted to $402,660. The chief cause of the decrease was the decline in the price of copra from $57.12 to $42.84 a ton. The value of the exports of copra alone was $326,184, higher than the total value of the exports of other products. The exports of cocoa beans amounted to 10,151 pounds, valued at $1,318.

There arrived in Samoa for transshipment copra from other Polynesian islands and cocoa from Tutuila to the value of $48,887, against $118,481 worth in 1902, a decrease of $69,594.

The trade of Samoa during the last two years was as follows:

Trade of Samoa in 1902 and 1903.

Item.	1902	1903	Increase (+) or decrease (–).
Imports	$570,750.42	$638,174.33	+$67,423.91
Exports	402,660.59	329,512.59	– 73,147.99
In transit	118,481.16	48,886.63	– 69,594.53
Total	1,091,892.17	1,016,573.55	– 75,318.62

HUGH PITCAIRN, *Consul-General.*

HAMBURG, GERMANY, *June 15, 1904.*

POST-OFFICE TO COLLECT PARCELS IN ENGLAND.

(*From United States Consul-General Guenther, Frankfort, Germany.*)

According to the London Daily Mail an important and useful concession to the rural population of England is announced by the British post-office.

It will now be possible for those who live in places quite remote from post-offices to hand parcels to the postmen for transmission through the mails. A rural postman, whether on foot or mounted on a bicycle or tricycle, is to accept parcels tendered to him, provided that he is not already fully loaded and that the weight of the parcels handed by any one person does not exceed 11 pounds. If the sender's consignment is likely to exceed this limit, arrangements will be made for its collection if a day's notice is given. If the postman uses a horse and cart he will be allowed to accept any number of parcels, provided he can conveniently carry them in his vehicle. When these conditions do not apply, the sender has yet another opportunity, for he has only to proceed to the nearest country letter box at the time appointed for emptying it, and the parcels may then be handed over to the driver of the mail cart, who, however, is not required to weigh the parcels or to check the postage.

For the accommodation of farmers, market gardeners, and those who are in the habit of regularly dispatching goods by parcels post, special arrangements have been made, and in cases where a sufficient number of parcels are regularly sent there will be, if desired, a direct collection from the premises every week day or on certain specified days each week.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *June 22, 1904.*

FOREIGN COMMERCE OF RUSSIA.

(*From United States Consul Monaghan, Chemnitz, Germany.*)

Just at present the eyes of the commercial world are turned on Russia. All are anxiously studying the influence of the war upon the export and import trade of this great developing Empire. In 1903 the total imports into Russia by way of the European frontier were valued at $300,800,000; in 1902 at $264,000,000, and in 1901 at $266,500,000. The greatest increase is recorded for agricultural implements, the total import for 1903 having amounted to $12,700,000, against $9,110,000 in 1902 and $7,934,000 in 1901. The favorable crop of 1902 is said to have done much to raise the import in this line. The increase in the importation of cotton and of paper goods was also considerable during these three years.

The following countries are the heaviest importers into Russia·

Imports into Russia by countries, 1901 and 1903.

	1901	1903		1901	1903
Germany	$104,400,000	$118,000,000	France	$13,800,000	$14,045,000
Great Britain	51,450,000	55,980,000	Austria	12,400,000	13,930,000
United States	17,200,000	31,290,000	Finland	11,016,000	11,300,000

As appears in the above table, the United States has almost doubled its exports to Russia during the last three years, the main article causing the increase being cotton. German statisticians have shown that the increase of $14,400,000 recorded for Germany in the above table is fictitious, as it represents raw materials and half-manufactured products of other countries reaching Russia by way of Germany.

The total exports of Russia across the European frontier were valued at $475,000,000 in 1903; at $413,000,000 in 1902, and at $365,000,000 in 1901. More than one-half of this amount is represented by the export of grains, the total in 1903 having been $238,900,000. Of this amount wheat represents $109,000,000. Butter to the value of $15,800,000 was exported in 1903; eggs to the value of $25,500,000; wood to the value of $37,700,000.

The leading countries participating in the export trade of Russia, with the value of the export to each, were as follows:

Russian exports by countries, 1901 and 1903.

Country.	1901	1903	Country.	1901	1903
Germany	$89,900,000	$116,300,000	Finland	$19,900,000	$23,400,000
Great Britain	78,900,000	109,000,000	Belgium	10,600,000	21,800,000
The Netherlands	42,400,000	50,500,000	Austria-Hungary	15,100,000	18,500,000
France	30,700,000	37,950,000	United States	2,000,000	2,700,000
Italy	18,900,000	28,900,000			

J. F. MONAGHAN, *Consul.*

CHEMNITZ, GERMANY, *June 28, 1904.*

GERMAN RAILWAYS AND RAILWAY TRAFFIC.

(From United States Consul-General Guenther, Frankfort, Germany.)

STANDARD-GAUGE RAILWAYS.

Mileage.—The mileage of the German standard-gauge railways was 26,637 miles at the end of 1892 and 32,242 miles at the end of 1902, an increase of 21 per cent. Of the mileage in 1892, 24,145 miles, or 90.6 per cent, were State railways, and 2,492 miles, or 9.4 per cent, were private roads; in 1902, 29,394 miles, or 91.2 per cent, were State railways, and 2,848 miles, or 8.8 per cent, private roads. In 1892, 15,543 miles, or 73.4 per cent, were main lines, and 7,094 miles, or 26.6 per cent, were local lines; in 1902, 20,284 miles, or 62.4 per cent, were main lines, and 11,958 miles, or 37.1 per cent, local lines.

Receipts.—The receipts from the passenger traffic in 1902 were $136,561,600, against $87,960,400 in 1892, an increase of 57 per cent.

The share of the different passenger classes, expressed in percentages, compared with the total number of passengers, was as follows:

Class.	1892	1902
	Per cent.	*Per cent.*
First	4.36	4.19
Second	25.57	21.74
Third	48.94	48.25
Fourth	2.64	1.84

The receipts from freight in 1902 were $311,601,600, against $219,218,400 in 1892, an increase of 42.1 per cent. The total receipts, exclusive of lease interest, increased from $322,833,600 in 1892 to $485,131,800 in 1902, an increase of 50.27 per cent, while the mileage had increased but 21 per cent. The interest earned upon the invested capital of the lines operated was 4.70 per cent in 1892 and 5.50 in 1902.

Officials and employees.—The number of officials and employees, inclusive of artisans, apprentices, and women, was 545,182 in 1902, against 417,360 in 1892, an increase of 30.6 per cent.

Salaries and wages.—The salaries and wages for officials and other employees (inclusive of $11,100,000 for the welfare of employees), amounted to $183,304,800 in 1902, against $121,392,000 in 1892, an increase of 51 per cent, against an increase of 30.6 per cent in the number of such officials and other employees. The average wages for each of these increased from $290.88 in 1892 to $336.24 in 1902, an increase of 15.6 per cent.

Rolling stock.—The rolling stock of these standard-gauge railways in 1902 consisted of 20,296 locomotives, 46 motor cars, 41,215 passenger coaches, and 424,017 baggage and freight cars. Compared with 1892, the number of locomotives increased 31.15 per cent, the number of passenger coaches 42.61 per cent, and the number of baggage and freight cars 37.52 per cent.

NARROW-GAUGE RAILWAYS.

Mileage.—The mileage of the narrow-gauge railways operated for public purposes, exclusive of the so-called "little roads," was 786 miles at the end of 1892 and 1,165 miles at the end of 1902, an increase of 48.1 per cent.

Rolling stock.—The rolling stock in 1902 consisted of 406 locomotives, 1,097 passenger coaches, and 8,764 baggage and freight cars, against 264 locomotives, 712 passenger coaches, and 5,055 baggage and freight cars in 1892.

Receipts and expenditures.—The receipts of the narrow-gauge railways of Germany, exclusive of those of upper Silesia, increased from $1,380,000 in 1892 to $2,484,000 in 1902; the operating expenses from $1,032,000 in 1892 to $2,078,400 in 1902, while the net profits increased from $348,000 to $405,600.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *June 22, 1904.*

BRITISH ENGINEERING STANDARDS CODE.

(*From United States Consul Halstead, Birmingham, England.*)

Mr. Robert Atkinson, of Salisbury House, London Wall, London, E. C., England, the author of the Via Eastern Code, has given to the press for review the first volume of the British Engineering Standards Telegraphic Code. This compilation is intended to facilitate the ordering of rolled standard sections by British colonies and dependencies, and "thus help the British manufacturer to compete with his keen and ever alert foreign rival."

The published volume of this code contains the findings of the Engineering Standards Committee with regard to rolled sections and tramway rails, giving the various sizes which are stocked by each of the leading firms in this country, and for which they keep rolls. Thus purchasers may know without difficulty from what British firms they can get any particular standard size without the vexatious delay which often occurs in repair and other work which is being carried out at a distance from the base of supplies.

While the great English engineer Whitworth was doubtless the first to advocate the necessity of standardizing certain parts of machinery, American manufacturers have been credited with adopting his ideas on this subject more generally than those of any other nation; and British engineers have been much criticised for not standardizing more generally, but I question whether any nation has ever given such earnest attention to the question of standardization as is being given by the Engineering Standardization Committee of Great Britain at the present time.

The object of the committee of scientific men (associated with them are leading manufacturers) is to assist engineering trades of this country in the judicious selection of standards. The Standards Telegraphic Code is being prepared by Mr. Atkinson, and not by the committee, because it is an essentially commercial work; but in this first volume he gives a list of all the committees and subcommittees, the names of members, a short history of the committee and interesting details of the work being done, a list of the councils of the engineering institutions represented on the committee, and a general directory of rolling mills, metal merchants, railway-carriage builders, shipbuilders, etc.

MARSHAL HALSTEAD, *Consul.*

BIRMINGHAM, ENGLAND, *June 20, 1904.*

RAIL MOTOR CARS AT PLYMOUTH, ENGLAND.

(*From United States Consul Stephens, Plymouth, England.*)

A new service of rail motor cars has been established by the Great Western Railway Company between Plymouth and Plympton and Plymouth and Saltash. The first service of the kind was started by the company in October last upon their line which runs through the Stroud Valley, and the undertaking proved so successful that shortly afterwards another set of cars were put on between Paddington and Southall, and later still on the Lambourn Valley line from Newbury. The outcome in each case was so satisfactory that recently the company determined to augment the ordinary local train service by the provision of three rail motors.

The cars, comfortably fitted, are built on the Pullman plan, affording sufficient room for moving about. Paneled windows, the full length of the car, permit of plenty of light and means of viewing the district through which it passes. Each car is 57 feet long, 8 feet 6 inches wide, and 8 feet 2 inches high. It is supported on two bogies, the wheels of which are 3 feet 8 inches in diameter. Seating accommodation is provided for 50 passengers, who enter at one end of the car, while the other is partitioned off to inclose a vertical boiler. This stands directly over the bogie which provides the four coupled wheels of the engine. The latter consists of two outside cylinders, 12 inches in diameter with 16 inches stroke, and are fitted with Walschaert's valve gear. The boiler is 9 feet 6 inches high and of 5 feet mean diameter, with 477 vertical tubes, and carries a working steam pressure of 185 pounds per square inch. Each car, which is lighted with oil gas, represents a cost of £2,000 [$9,733]. The cars can be driven from either end, there being a glass lookout at each. The motor can develop sufficient power to draw an ordinary railway car as a trailer.

JOS. G. STEPHENS, *Consul.*

PLYMOUTH, ENGLAND, *June 10, 1904.*

GERMAN EXPORT OF MACHINERY AND BICYCLES.

(*From United States Consul Langer, Solingen, Germany.*)

The exports of machinery from Germany increased notably during the first three months of 1904, amounting to $14,518,000, against $11,424,000 in 1903 and $10,234,000 in 1902.

The countries to which the export has most decidedly increased are Russia, Austria-Hungary, France, Switzerland, Spain, Holland, and India.

The order and amount of the principal kinds of machinery exported are as follows:

Value of German exports of machinery, first quarter of 1904.

Kinds of machinery.	Value.	Kinds of machinery.	Value.
Sewing machines	$1,689,800	Locomotives and locomobiles	$1,023,400
Electric machinery	1,309,000	Electric motors	975,800
Steam machinery	1,071,000	Tool machinery	833,300

A comparison of the export with that of first quarter of 1902 follows:

German exports of machinery, first quarters of 1902 and 1904.

Kinds of machinery.	Export in first quarter of—		Kinds of machinery.	Export in first quarter of—	
	1902	1904		1902	1904
	Tons.	*Tons.*		*Tons.*	*Tons.*
Tool machinery	2,648	6,369	Agricultural machinery	2,177	2,605
Steam machinery	4,310	6,532	Pumps	1,139	2,876
Electric machinery	2,913	3,776	Rollers	1,078	2,440
Sewing machines	3,378	4,102	Cranes	1,252	2,765
Motor wagons	315	1,062			

The German import of foreign machinery amounted to only about $4,500,000, or about one-third of the export.

The export of bicycles was $1,428,000 during the first three months of 1904, a decided increase over the export for the same period of the last four years: In 1901, it was 484 tons; in 1902, 650 tons; in 1903, 995 tons, and in 1904, 1,293 tons.

Of these amounts the following quantities were exported to the countries named:

German exports of bicycles, by countries, first quarter of 1901–1904.

Country.	1901	1902	1903	1904
Denmark	70	94	151	271
Holland	64	122	165	246
Austria-Hungary	61	88	99	125
Italy	30	25	66	128
Belgium	34	41	64	104
Switzerland	38	56	81	101
Russia	54	49	96	80
England	48	77	115	67
All other countries	85	98	158	171
Total	484	650	995	1,293

JOSEPH J. LANGER, *Consul.*

SOLINGEN, GERMANY, *June 6, 1904.*

SILK INDUSTRY OF JAPAN IN 1903.

The Swiss consul-general in Yokohama sends the following report on Japan's silk industry, according to the Schweizerisches Handelsamtsblatt, an official trade journal of Switzerland, of June 22, 1904, et seq.

Until quite recently silk has constituted almost one-half of the entire export trade of Japan. Statements of the total exports and imports in 1902 and 1903 and of the exports of silk and silk manufactures for the same years follow:

Total trade of Japan in 1902 and 1903.

Exports and imports.	1902	1903
Total exports	$128,633,400	$144,171,000
Exports from Yokohama	69,229,968	72,996,840
Total imports	135,322,038	157,933,728
Imports via Yokohama	44,467,914	55,217,742

Japan's exports of silk and silk manufactures in 1902 and 1903.

Description.	1902	1903	Increase (+) and decrease (–).
Raw silk	$38,276,019	$37,065,595	–$1,210,424
Waste silk	2,845,471	3,481,753	+ 636,282
Total raw and waste silk	41,121,490	40,547,348	– 574,142
Manufactured silk:			
Pongee	12,293,334	13,700,218	+ 1,406,884
Wash silk	1,331,097	498,192	832,905
Handkerchief	1,570,812	1,463,334	– 107,478
Total manufactured silk	15,195,243	15,661,744	+ 466,501
Total raw and manufactured silk	56,316,733	56,209,092	– 107,641

The growth of the export of raw silk from Japan is shown by the following figures, giving its value in a series of years from 1870 to 1903: 1870, $2,062,357; 1880, $4,148,509; 1890, $6,680,152; 1900, $21,524,808; 1903, $37,065,595.

Japan leads the world as a silk exporter, with an export of 9,920,800 pounds. The following shows the silk produced, exported, and consumed by specified countries in 1903:

Production, exportation, and consumption of silk in 1903.

Country.	Silk produced.	Silk exported.	Silk consumed.
	Pounds.	*Pounds.*	*Pounds.*
Japan	16,534,660	9,920,800	6,613,860
China	33,069,300	8,818,500	24,250,800
Italy	9,920,800	7,716,200	2,204,600
France	1,102,310		8,818,500
United States			11,023,100

The war will have no unfavorable influence upon the production of raw silk in Japan. The Government, recognizing this fact, is endeavoring to encourage the business.

In 1903, 1,707,012 pieces of silk goods were exported, against 1,711,170 pieces in 1902. Ten years ago only about 200,000 pieces were exported. The 1903 export was divided as follows:

To America, 382,442 pieces; to England, 500,715 pieces; to the European Continent, 442,880 pieces; to Hongkong, 98,612 pieces; to Burma, 262,363 pieces; to Australia, 20,000 pieces; total, 1,707,012 pieces.

The increase of wages during the last ten years has not affected the pongee workers. The weavers are mostly peasants. The loom stands in the room, and whoever has time works it. Here time is not money, and there are no factories.

From time to time inquiries reach the consulate as to how pongees can be secured direct from Japan. The simplest way is to buy from the European importer, as he deals in large quantities and can fill orders at shorter notice than one could get goods from Japan. In addition, he can have the samples before him when ordering.

The following statistics are taken from the Yokohama custom-house records and show the amount of pongees sent to different countries for 1901, 1902, and 1903:

Exports of Japanese pongees, by countries, in 1901–1903.

Destination.	1901	1902	1903
France	$2,466,096	$2,909,814	$4,807,692
England	1,231,056	3,725,538	3,280,326
United States	2,420,280	2,723,562	2,624,958
British India	827,676	1,139,424	1,840,608
Germany	281,868	488,538	328,680
Hongkong	4,116,468	647,898	191,232
Total	11,343,444	11,634,774	13,073,496

The differences are only apparent, as in order to keep the destination secret, goods were formerly sent to Hongkong, where they were transshipped. Even now 50 per cent of the shipments to Hongkong go to England, 40 per cent to the Continent, and 10 per cent to India. Wash silks, made from lower grades of silk, with also a little cotton, are not yet very popular.

Of the total export of wash silk in 1903 and 1902 the five leading countries took in 1903 $416,403 worth and in 1902 $1,209,893 worth, as follows:

Export of Japanese wash silk, by countries, in 1902 and 1903.

Destination.	1902		1903	
	Yards.	Value.	Yards.	Value.
United States	5,262,474	$940,843	1,700,680	$260,000
British America	698,790	122,381	825,381	132,130
France	456,261	88,520	99,716	16,490
England	114,871	20,732	104,977	15,930
Germany	412,072	77,581	66,358	5,715
Total	7,419,017	1,250,057	3,195,163	430,265

FUTURE AND POWER OF THE UNITED STATES.

(*Published in the Journal de St.-Pétersbourg, an influential Russian paper.*)

In a review of a new book just issued among the Annales Politiques et Littéraires of the Académie Française, M. Hanotaux, member of the Academy, has a remarkable article on "The future and the power of the United States."

The publication of the present volume and of the work of which it is a part, says M. Hanotaux, is one of the signs of the times. It is a veritable and practical encyclopedia of commerce. Who would have dreamed, twenty years ago, of a work of such proportions? And yet publicists as well as men of affairs have known, for a long time, in what points works of this kind are weak and how very hard it is to combine the most rudimentary notions involved in international relations. To whom shall we turn? Where shall we knock?

On this point I have my own opinion. I have given expression to it as often and as loudly as I could. The great evil in France is the desire to stay at home, or perhaps better expressed, the indifference to travel. The French do not travel, hence everything surprises them. The only cure for insularity and narrowness is travel. "Travel! Go outside!" I say again and again to my fellow-citizens. "The reward you will reap will be rich indeed." This is my way of imitating the elder Cato's cry, "Carthago delenda est." "Go outside, travel!" Now, the book under review would dispense with travel, were that possible. It puts facts before us just as they are. In reading it one lives among realities. It is not only a compilation of statistics, facts, and figures to be carefully considered, it is life itself. Each branch of commerce, each industry is reviewed. The origin, cause for existence, progress, methods, strength, and weakness of each one of these is recorded. One is made to understand why one nation or man succeeds and the other fails. Here are the names of sellers, buyers, banking houses, and commission houses, and even in certain cases the methods of procedure. To know is not all that is needed; it is necessary to act and to know how to act. Such ought to be the motto of the authors of this work. They have created an authority, a living book—one that speaks to the man of business in a businesslike way. It teaches two nations that which above all things it is important for both of them to know; not only what they are, but what they may be. Having to discuss their interests, they engage in a carefully worded and concise dialogue, having facts and figures well in hand. In it each participant puts forth his best efforts, shows what the situation actually is, and makes his offers. In the first volume of this work France and Italy are coupled together. In the last it is France and the United States which appear hand in hand. Is there a more important or a nobler subject?

The great American Republic is already high above the horizon of the commercial world. Its attitude is menacing. All eyes are turned toward it. One word will express its position, "power," and one word will justify it, "organization." Power is shown nowhere so much as in a mere enumeration of the elements which make up the present and future greatness of the United States. Its territory is as large as that of Europe. It has 80,000,000 inhabitants. It touches the world's two great oceans. Its climatic conditions range from tropical to arctic. All kinds of minerals, from gold to coal, are found in its mines, along its rivers, and in alluvial deposits. All kinds of plants, from the cedar to the hyssop, are there; so, too, are all kinds of animal wealth, from the whale to the bird of paradise. The articles of primary importance, iron, coal, cotton, cereals, all kinds of machines, from those harnessed to Niagara Falls to those which dress a hog in five minutes, are there. Above and over all, permeating the life of the people, is an active and fertile genius, a spirit of enterprise, an assiduity of labor, perfect liberty and equality of all the citizens. If these are not the elements of a people's progress and prosperity, what are? Here there is a vast army armed to the teeth for the arts of peace, and even for the arts of war, lifting itself beyond the oceans, not a month from the ports of the Old World, but a week. If one considers the question of freight, the United States is nearer to the Mediterranean than Liverpool is to Marseille. To-morrow this colossal empire, master of the Panama Canal, will interfere in some way between Europe and Asia. It will control the commerce of the West and the East, for it will hold the principal way. Such, then, is its power.

In the matter of organization the Republic rules by means of a voluntary discipline which watches over all the larger industries, which subordinates them to very careful calculation and to ripe reflection.

It follows the materials of commerce from their origin up to the very last step in their manipulation or preparation for the world's markets. It combines the efforts of all, and it concentrates all the forces of domestic production for the purpose of pushing its products with an irresistible impulse upon the markets of the world.

This is the discipline that organized the trusts, that created the enormous fortunes always associated with the labor whence they are derived, that is only one weapon more in the hands of the men of genius who know how to create them. This discipline has created a still more intelligently wielded and terrible weapon, the graduated tariff, continually changed to meet changed conditions, and modified to coincide with the progress of the country. Sheltered behind this for fifteen years the American Republic has been forging ahead with astonishing rapidity and success. The Republic knows what it wants and whither it is marching. It is well posted as to its resources and as to the resources of its adversaries. It opens and closes its gates as the stranger is considered useful or harmful; in other words, treaties of reciprocity must really be the means of reciprocal trade.

The admission of immigrants, or, in other words, the importation of labor, is as carefully watched as is the importation of goods. On the battlefields of international trade clever strategists have organized a trust vaster than any heretofore conceived, which binds the different States and the different industries therein. I refer to the great national trust, the tariff. Thus, at the beginning of the twentieth century, the United States faces the world as a most desirable market, on the one hand, and as an awful menace to manufacturing nations, on the other. The nation or the individual that will make any effort to establish vast commercial relations in the future must be prepared to measure forces with the two great elements of the Union's power—its strength, based on its resources, and its organization. To what conclusion will a careful study of those two factors lead us? Is Europe in general, and each particular power, doomed to inevitable and irremediable defeat? Is the battle that is to be fought hopeless? Will the prosperity and progress that have marked the American Republic's movements during the last decade or two continue until they obscure all else? In other words, are we to be confronted by an American peril more terrible and more pressing than the "yellow" peril, one that is to wield against the Old World the weapon before which that Old World is to go down to irretrievable defeat?

The peril exists. Of this there is no doubt. Everybody will remember the feeling that spread over France twenty years ago when the first shipments of American wheat menaced the farmers of the north and center of France. The only way we were able then to resist the invasion was by keeping step with its progress by the imposition of tariffs. At the present time it is hardly certain that French agriculture can hold its own or keep up the competition.

Germany has passed at different times through similar perils, notably when American pork, invading the Empire's markets, threatened by its abundance and cheapness a great public danger. The Empire defended itself as best it could, but not without exciting considerable resentment on the other side of the Atlantic.

Finally England has had her hours of doubt and difficulty with the same or similar dangers. Think of what she had to endure when she saw herself attacked and beaten in her own markets. Think of what she must have felt when she saw the first shipments of American coal landed in her harbors in 1900.

The peril exists. It is absurd to try to deny its existence. It would be still more absurd to lose hope or to believe that there is no remedy. The fight for first place in the world's trade is not necessarily disastrous to either party thereto. Progress has in it profit for the whole world. Nor is this profit limited to the gain of a single day or to one transaction. Progress brings continual prosperity. There are well-known cases in which competition has enriched all parties participating in the struggle. In a word, every conquest over inert matter is to be measured as a gain to mankind. All participate in its advantages. It is not necessary in peaceful battles that industrial and commercial rivals be vanquished. Other words than "war" and "vanquished" would better fit the friendly contests called competition.

Having no desire to embrace in an article of this kind the whole vast field of competition between the two continents of Europe and America, I limit myself to a consideration of the commercial situation in France and the United States. It seems to me that in spite of all that has been said and done the matter can be looked upon with serenity and confidence. It is true that our power is incontestably less than that of our rival. We have neither the vast stretches of territory nor the great natural resources nor the prodigious equipment in machinery nor the vast number of men possessed by the United States. France appears in comparison with the United States insignificant. Its future appears somewhat restricted. At least this is the conclusion to which one must come finally who looks upon the matter from the standpoint of the relative positions of the two countries in regard to their natural resources and forces already developed. It is otherwise perhaps if one looks at results based upon possibilities. Temporarily the balance of power in commerce is in our favor. We are at present and will still remain exporters to the United States; this is an actual fact. For the future there are some considerations which are of great weight. In the first place, French products are not of a class that come into competition with American products.

America, entirely occupied in exploiting its own territory, produces and exports above all things the raw materials which our industries consume, as petroleum, cotton, iron, coal, etc. These are the most considerable articles of her commerce, things that we neither make nor consider of the highest importance. As a matter of fact, we are menaced with competition only in the matter of foods, but upon this point our production and consumption will so regulate themselves that we shall be able to meet competition successfully if it comes. Besides, our market is sufficiently rich, sufficiently sought, sufficiently important to permit us to secure concessions in foreign parts in favor of our own products by making concessions to parties seeking sales in our markets. In other words, we could exercise a rigorous retaliatory control over petroleum if our wine trade should be threatened. On the other hand, every increase in population and in the public good fortune of the United States is profitable to us because of the increased sale of our products. Our trade in articles of luxury increases when the resources of the consumer increase. We need general good will; we must preach with smiling faces. Our wines, our champagne, our fine oils, our fruits, our liqueurs, our hats, our gloves, our perfumery, our woolen cloths, our silks, our objects of art always seek a refined, elegant, and cultured purchaser. Our wish therefore is very sincere when we wish good fortune to our friends.

Then, again, quantities do not speak at all times. It is necessary to consider also the qualities and results. On this point statistics are insufficiently accurate. If they were able to set forth the real secret of the busines transactions of each merchant they would certainly confirm our optimistic belief. As a matter of fact, industry and trade advance, without ceasing, toward the production of the highest grades of goods, and there are excellent reasons for this fact. The natural movement is the elimination of encumbering weights, of uncertain transactions, and of bad debts; it tends to the least effort—that is, it seeks the lines of least resistance. It desires a minimum of tonnage with a maximum of gain. This is the trend of French commerce. It is able to profit by all those circumstances which might prove great difficulties to its competitors.

Nor is this all. France is to-day restrained within her own confines. Will it be so to-morrow? Is it not even now assured of its future in reserving for itself on this planet territory almost as vast perhaps as that of the United States, which can become in the future very prosperous? I refer, of course, to our colonial possessions. In them will be found an extent of territory, a diversity of climate, an abundance of natural resources which will furnish to human activity and to the commercial world a new and unexploited field.

It was new land that made the fortune of America. Why should not these new lands possessed by us make the new fortune of France? Already Algeria, Tunis, and Indo-China are claiming their places and rank among other possessions. To-morrow the Kongo, East Africa, Madagascar, and New Caledonia will offer to strangers openings no less vast than those in America. These acquisitions were made only yesterday, but their progress has already been remarkable. Why deny the possibility of their future? The pessimists, who are perhaps not only powerless, but idle, shrug their shoulders and smile. Let me tell them a simple story. In 1823 the commander of Fort Dearborn, a pessimist of that time, wrote to the Secretary of War of the United States as follows:

> I have the honor to inform you that this post should be abandoned, because the country surrounding it is such that it is impossible for a population to live here sufficient to justify the expense of keeping a fort at this place.

In 1893, seventy years later, the place where that fort stood had a population of a million and a half, and 27,000,000 people visited her exposition. I refer, of course, to Chicago.

It is neither resources nor a future which France lacks if she does not prove untrue to herself. Books such as these I have presented to the public are useful because they are excitants to energy, and I should like to see them in the hands not only of business men, who would be able to draw information from them, but also of professors, to give instruction from them. A very valuable point concerning this particular book is that it is printed in alternate columns in French and English. This will assist the student.

GERMAN COLONIAL WORK IN EAST AFRICA.

According to the Kolonial Zeitung, a leading German colonial paper, of July 7, 1904, Mr. Franz Eiffé, writing to the Deutsch-Ostafricanische Zeitung, tells of the efforts of the Empire in aiding German emigrants and colonists in East Africa. Writing about what he finds after an absence of seven years, Mr. Eiffé says:

PRESENT CONDITIONS AND OUTLOOK.

There is no good reason for the pessimistic reports prevalent in so many parts of the Empire in regard to the German East African colonies. On the contrary, there is good reason to rejoice over the conditions there. One must not always judge by balances of trade or figures for exports and imports. They too often deceive. Progress is often made when the trade tables show a decline in exports and imports. One must not forget that the time when millions can be made on large plantations has passed away. The great sums of money put into the coffee and tobacco fields will not have been invested in vain if our people learn the lesson that they teach.

The knowledge gained by other colonies, through the work and experience of a hundred years, we were willing to ignore, thinking it possible to find exceptions in our favor. It occurred to no one of those interested in colonial enterprises to plant his dwelling in the colony, to direct and watch over the work of his help and their overseers, as every farmer in the Empire is forced to do in his German fields. Either one must work his own farm or rent it. In no other way was success ever possible. This fundamental principle was ignored by those interested in South African colonies. They overlooked existing conditions, and tried to govern colonies at a distance of many thousand miles by rules that would not work on the farms at the ends of lanes leading to their homes. The results have been bad, but nobody was justified in believing that they would be better. Formerly the fault was found in the colony. The climate was bad, the soil poor, the planters no good. One set of help was turned off and a new set hired. Thus the experience of the first settlers availed nothing to the new men. Nothing like permanency was possible. Even though the big plantations are not paying interest on the money invested in them, or even sinking funds to pay off new or old debts, I was most pleasantly surprised at the success of the small planters. The cocoa-palm groves and mohogo, rice, maize, and cotton fields in the hands of private parties and communes give the greatest promise.

GOOD ROADS.

An important feature favoring success in the colonies is found in good roads. One must not look upon the money put into these as so much thrown away. It is always well spent. Wonderful is the only word that will do to describe the development along the Tanga Railroad in the colonies during recent years. By means of intensive farming the colonists have been able to raise the larger part of all the food needed for their own tables. Their success with rice and maize has been phenomenal. It looks as if they will soon be able to export a surplus. They certainly will if the rich lands of the interior are opened to railroad transportation.

LEARN FROM EXPERIENCE.

One weak point in colonial life is due to the long delay in getting one colony or colonist to profit by the experiences of other colonies or colonists. An effort should be made to bring about an exchange of results. The experience of each individual should be made common property as soon as possible. Efforts to obtain these results are now being made by the Biological and Agricultural Institute at Amani. It is doing all in its power to gather and to distribute the kind of knowledge that is most likely to contribute to colonial success. Every colonist in or near Amani will do well to visit the institute. In it they are sure to get good counsel. Only scientifically trained men are in charge. They are experimenting with all kinds of plants, soils, and fertilizers of interest to the colonists. Nor is that all. They are studying the harmful plants, insects, etc. The history of the colony will contain, when written, a golden page for the Amani experiment station.

NECESSITY FOR COMMERCIAL TRAINING.

Another point as important as any thus far discussed is the commercial training question. Officials, planters, even military officers, whose first duty is to advance the development of the colonies, both in producing and trading, should have a preliminary commercial training. They should be able to estimate the productive, consuming, and selling capacity of a colony or a plantation.

DECLINE OF BUREAUCRACY.

I was pleased to note the decline of bureaucracy and the development of a simple method of doing the Government's work. Simplicity prevails, and the work is being done well and cheaply, possibly at too small an outlay. Industrial development is the one important thing to keep in mind, and all those having a hand in colonial work should have had experience along industrial lines. It costs money to build roads and to open up forests at best, but it costs too much when the work is put into inexperienced hands. The district officials are engaged in agriculture, the troops, sent out to protect the colonists, are building roads, the navel forces are carrying on commercial work by transporting commodities and building docks and boats. If it is not possible to exact a general commercial training from all those sent out to serve in the colonies, as is done in Holland, the Government should compel every official to spend his vacation in visiting other colonies for the purpose of picking up information and experience of value, to be used later in the German colonies. Such officials ought to be attached to the big German business houses in foreign parts. For example, men connected with concerns in Singapore could make trips of the kind indicated to Bangkok for the purpose of picking up facts about the rice and tea culture. They could visit Batavia, Colombo, Manila, Calcutta, Bombay, etc.

COTTON CULTURE.

I visited the cotton plantations, of course. In this, as in other things, one should go slowly and carefully. Egyptian planters are warning the colonists against too great reliance on the belief that the cotton crop is going to prove a great money-maker. Egyptian cotton, it must be remembered, is produced by irrigation. In the East African colonies this is hardly possible, hence the cultivation of the cotton there and in Egypt can hardly be compared. It is argued by many that the best thing to do is to develop, by degrees, a specific East African cotton out of the Egyptian seed. That will take time. To build up an experimental system, to lay out an irrigation plant, and so to plant that the blossoming and harvesting will fall in the dry season is a big undertaking. Some think it would be better to send experts into Egypt and North America for the express purpose of studying the problem of cotton planting, with a view to getting the very best results in the colonies.

WORD ABOUT RAILROADS.

In conclusion I would like to point out that the Government is not only not to build the railroad to Mrogoro but is to exercise no influence over the rates to be charged. This I regret, although I admit that the progress and prosperity of the colony depends upon the railroad. Inasmuch as the colony is large and its available capital small, it must be warned and warned against useless division of its powers. Every effort should be concentrated on the development of the hinterland of Dar-es-Salaam and Tanga. Projects like the southern railroad should be left untouched for some time. Nor are railroads enough. Good turnpike roads must be opened; only when these are there to feed the railroads is prosperity possible.

CONCLUSION.

After going over all the ground, and over all the questions here discussed, I am satisfied that the Government is doing all in its power to help the colonists to succeed, that prejudices have been removed, that present conditions show this, and that there is a degree of progress and prosperity that is encouraging. A constant improvement is everywhere in evidence. This will increase with every foot of road and railroad opened to traffic.

The development of the plantations of textile fibers, rubber, coffee, rice, and maize, as well as of mining, depends on the way in which the foregoing questions are answered.

AGRICULTURE IN JAPAN.

(*From United States Consul-General Bellows, Yokohama, Japan.*)

Only 14,995,272 acres, or 15.7 per cent of the whole area of Japan, exclusive of Formosa, consists of arable land, and 55 per cent of the agricultural families cultivate less than 2 acres each; 30 per cent cultivate 2 acres or more up to 1½ cho, or a little less than 3¾ acres, leaving 15 per cent of the farmers who cultivate farms of 3¾ acres or more. A comparison of the whole area under cultivation with the number of farm workers shows that, on an average, one man cares for a little less than an acre.

An American farmer will naturally wonder how the Japanese farmer can support his family from the produce of so small a farm, and how he employs his time on it. The Japanese standard of living is far below the American, and the income of the Japanese farmer is usually increased by his engaging in some subsidiary industry, such as rearing silkworms, reeling silk, or spinning, and by working for wages in the intervals of farm work. In his work on the farm he seldom uses a horse or other draft animal, and his tools are of a very primitive character. He fertilizes and cultivates very thoroughly, and is thus enabled to secure a more abundant harvest, besides often raising two or more crops a year on the same field. In the warmer latitudes of Japan barley, indigo, beans, and rape are grown successively on one plat of ground within the space of a year.

There are no reliable data respecting the proportion of independent and tenant farmers, the latest published estimates being based on returns made fifteen years ago. According to these estimates, a little more than half the cultivated land was leased to tenant farmers, the remainder being worked by the owners. The lot of the tenant farmer is far from easy, the high price of land forcing him to lease on terms which leave him a very small return for his labor after he has paid for the necessary fertilizers. These conditions tend to retard the advancement of agriculture by preventing the purchase of new tools and hindering any effort the farmer may make to adopt improved methods.

The Government has attempted to aid the progress of agriculture by laws respecting irrigation, the protection of forests so as to control the flow of rivers in the interest of the farmer, the formation of farmers' guilds, the rearrangement of farm boundaries, and the improvement of drainage systems. Small as the farms are, their parts are usually separated so that a farm of 2 acres may consist of several nonadjacent lots, the average size of a lot being about one-eighth of an acre. A law which went into force in 1900 provides for the rearrangement of boundaries by farmers exchanging fields for those owned by others so as to make the farms more compact and enlarge the fields to permit the use of horses and machinery, at the same time increasing the tillable area by straightening some boundaries and removing others. About 20,000 acres have already come under the operation of this law.

For the purpose of further promoting agricultural interests the Government maintains a State experimental farm and nine branch farms. The work at these farms is largely theoretical, and is divided into eight departments, viz, seed, saplings, agricultural chemistry, entomology, vegetable physiology, tobacco, horticulture, and general affairs. The results of the investigations are submitted to thirty-eight experimental farms, created and carried on by the provinces with the help of a subsidy from the General Government, and theories are here subjected to the test of practical application before general publication. Among the results already accomplished by this method are improvement in the quality and quantity of crops through more careful selection of seeds and better understanding of the varieties suited to the conditions in different localities; more efficient modes of destroying injurious insects; ability to minimize the injury from plant diseases, such as smut, mildew, pear cluster-cups, etc.; increased skill in the application of fertilizers, and the discovery of indigenous grasses suitable for meadows, all meadow grasses having formerly been imported.

The General Government aids the local treasuries to maintain six local agricultural schools for the instruction of farmers' sons in the general principles of agriculture, surveying, veterinary science, and related subjects. The Government also carries on an experimental tea farm, on which is a curing workshop; a laboratory for investigating the diseases of cattle and poultry; a cattle-breeding pasture for improving the native breeds of cattle for meat and dairy purposes, and two horse-breeding pastures for promoting the introduction of better horses.

Efforts have been made to introduce sheep raising and swine raising, but with only partial success. It is claimed that the conditions of climate and food supply present no serious obstacles to the success of sheep farming, but the statistics of 1901 showed only 2,545 sheep in the country. Swine raising has succeeded better, but can not yet be spoken of as an established industry of much importance, the number of swine having remained in the vicinity of 200,000 for several years.

Besides the encouragement and assistance to agriculture furnished through the agricultural schools and experimental farms and laboratories, the Government aids and promotes the development of agricultural interests by means of the hypothec banks. Recognizing that many operations necessary to the prosperity of agriculture require a heavy investment which will not yield immediate returns, and that farmers are therefore not able to pay the high interest or accept the conditions of short-time commercial loans, the Government has established the hypothec banks for the special accommodation of this class of borrowers. These banks are under the direct supervision of the finance minister, subject to strict regulations, and, in return, receive a certain degree of support from the Government. They are permitted to make loans only for the following purposes: (1) reclamation of land, irrigation, drainage, and improvement of the fertility of the soil; (2) construction and improvement of farm roads; (3) settlement in newly reclaimed places; (4) purchase of seed, young plants, manure, and other materials required in agriculture and industry; (5) purchase of implements and machines, boats, wagons, or beasts for use in farming and manufacture; (6) construction or repair of buildings for use in farming and manufacture; (7) improvements in farming and manufacture not included in the foregoing clauses; (8) rearrangement of farm boundaries; (9) undertakings by credit guilds, purchase guilds, and produce guilds of unlimited liability and organized under the industrial-guilds law.

The credit guilds are organizations of the farmers for the promotion of their common interests, and in some respects resemble the cooperative home-building associations of the United States. When organized in conformity with prescribed conditions, they are permitted to borrow money from the hypothec banks on very favorable terms, and the members may often obtain loans which the circumstances would prevent them from securing except through the guild. These guilds also undertake works for the common benefit, especially such as concern control of the course and volume of rivers, irrigation and drainage systems, road building, reclamation of uncultivated land, measures for protection against insect pests, and similar enterprises.

Stable manure and night soil have been used as fertilizers by the farmers of Japan from time immemorial, but in recent years the supply of these has been found wholly inadequate to the needs of the land, and artificial manures have come into general use. As the farmers were liable to be imposed upon by the venders of these, the Government in 1901 enacted a law for controlling fertilizers. This law requires those who manufacture or deal in fertilizers to procure a license, to submit samples of their goods to the proper officers for inspection, and to guarantee the alleged composition. The Government has distributed 116 fertilizer inspectors among different districts and has appointed 20 chemists at the State experimental farms to take charge of the analysis of fertilizers. In 1902, 3,697 applications for analysis of fertilizers were made to the farms and 7,685 analytical tables were prepared. Lecturers sent out from the agricultural schools and laboratories have explained to the farmers the primary essentials of fertilizers and the different requirements of different crops, so that the farmers have become generally intelligent on these matters. In 1901 the artificial fertilizer manufacturing companies of Japan produced 62,400 tons; 151,000 tons of fish fertilizers were produced, and 83,967 tons of Chinese bean cakes were imported for use as fertilizers. Artificial fertilizers are also imported from Great Britain, fish guano from Siberia, animal bone from China, and other fertilizing materials from different countries.

The principal agricultural products, named in the order of their acreage, are rice, rye, barley, wheat, beans, mulberries, sweet potatoes, millet, buckwheat, rape, red beans, Italian millet, tea, indigo leaves, potatoes, sorghum, tobacco leaves, cotton, and hemp. The area devoted to rice cultivation constitutes a little more than two-fifths of the total area of arable land. The greater part of the rice fields are in low-lying land, which can be easily flooded, but some upland rice is raised. Mulberry trees and tea plants are usually planted on land not suitable for more important crops, such as the slopes of hills, sandy dunes, and similar places. In the warmer parts of the Empire barley and rape are often raised as a second crop after rice has been harvested, but farther north the excess of moisture required for rice leaves the land too cold for another crop the same year.

Stock raising is still in its infancy in Japan, and is not likely to become an important industry, owing to the high price of land and the coarseness of the native grasses, most of which are not fit for food for cattle or horses. Oats and maize as foods for farm animals are practically unknown, and what passes for hay is a kind of straw, which is chopped fine before it is fed to horses. A little less than one-sixth of the arable land consists of plains and pastures, and of this about two-fifths belong to the State and the imperial household, the remainder being owned by private stock raisers, who raise stock principally for tillage and draft animals. The natives are not accustomed to the use of butter or milk, and do not usually like the taste of them, and their religious prejudices have hitherto prevented the general use of meat of any kind, although they now seem to be developing a taste for all these kinds of food.

Farmers do not engage in poultry raising to a sufficient extent to provide the eggs needed for home consumption, these being imported from China to the value of over $500,000 per year. Fruit raising, under the stimulus of Government encouragement, has advanced considerably, but is not yet an important branch of farming in this country. Bee culture is engaged in to a limited extent, but the industry is still in a primitive condition.

E. C. Bellows, *Consul-General.*

Yokohama, Japan, *June 7, 1904.*

NEW METHOD OF MANUFACTURING STEEL.

(*From United States Consul-General Bray, Melbourne, Australia.*)

It is reported that successful experiments have just been made here by the Iron, Steel and Metals Manufacturing Company at Melbourne, Victoria, for the purpose of proving the value of certain patent rights for the direct production of wrought iron and steel without first producing pig iron. Only a rough idea of the process may at present be had, though trial runs with New Zealand magnetic iron sand are now being made on a somewhat larger scale than hitherto. The sand is first separated from its gangue by electro-magnetic separators, this treatment leaving a pure magnetic iron oxide. The sand is then fed from a bin into the furnace, which is entirely novel in its features, being chiefly mechanical and automatic in its operation.

The ore drops from the bin into a slowly revolving cylinder placed at such an angle that the ore travels forward continuously in it. As it does so it is heated to a dull red by the waste gases from subsequent operations. From this cylinder the ore drops into a second revolving cylinder, where the fine particles are subjected to the action of reducing gases which reduce the magnetic oxide of iron to the metallic form, at the same time permitting the particles to retain their individuality. From this second cylinder the reduced ore drops into a smelting bath at the bottom of the revolving cylinders, and the molten steel or malleable iron, as the case may be, is tapped from this whenever that operation is necessary. It will thus be realized that the process is one of great simplicity and yet of much ingenuity. Not the least interesting part of it is the use of fuel oil for heating purposes. This is employed to secure concentration of heat and direct application in the furnace work. It is found that the fuel oil possesses many advantages over producer gas as used in existing smelting practice. The work done so far has demonstrated that not only is oil a cheap fuel, quite irrespective of the capital outlay that would be required if it was decided to utilize producer gas, but it is so thoroughly under control as to insure the best service.

The temperature at which iron ore melts is given variously at from 1,500° to 2,000° C., according to its purity.

The accurate gauging of temperature in the furnaces plays a very important part in the company's work, and accordingly an installation of thermoelectric thermometers has been made at the company's works. The apparatus consists of a "couple" consisting of a platinum-iridium junction inclosed in a metal tube fully 3 feet long, which is placed in the center of the furnace, and the temperature is then recorded on the dial of a special form of voltmeter, each division on which represents 25° C. This voltmeter reads up to 1,600° and is placed at any convenient distance from the furnaces. The various thermometers are connected with a switch board, which is again connected with the "couples" or tubes in the furnace. In the installation under notice four "couples" will be used, inserted in different parts of the furnace, and separately connected with the board, so that the reading of any thermometer can be taken and any discrepancy in the heat of different points of the furnace can be quickly remedied. It is interesting to notice that the voltmeter is so extremely sensitive that variations of heat down to 0.5 of a degree were easily noticeable in the trial test. The greatest temperature recorded was 1,300° C., equal to 2,340° F.

John P. Bray, *Consul-General.*

Melbourne, Australia, *June 13, 1904.*

RUBBER PAVING IN LONDON.

(From United States Consul-General Evans, London, England.)

The following particulars regarding the rubber paving of the two roads under the hotel at Euston station may be of interest:

This paving was laid down in 1881 by Kirk & Randall, the contractors for the extension of the hotel. Its cost per square yard was as follows:

Concrete foundation work	$5.60
Rubber paving, supplied by Messrs. Macintosh & Co	27.10
Total approximate cost	32.70

When the rubber was laid down in 1881 it was 2 inches in thickness. In May, 1902, after twenty-one years' wear, the portion on the incoming road into the station was taken up and carefully examined, when it was found to have worn down to about five-eighths of an inch in the thinnest place, namely, at the incoming end, where horses first step onto it from the macadamized road. Other parts of the rubber were worn down to 1 inch and 1¼ inches, these places in each case being near the center of the roadway. Renewal was therefore considered necessary.

In recent years the price of india rubber has largely increased, and its quality varies. Tenders were invited in August, 1902, from four firms, and the prices received varied from £5 11s. 4d. [$27.09] to £17 10s. 3d. [$86.22] per square yard, Messrs. Macintosh & Co.'s price being £10 2s. 6d. [$49.26]. The lowest price was accepted, namely, the tender from the India Rubber, Gutta-Percha and Telegraph Works Company, of £5 11s. 4d. [$27.09] per square yard. The material to be used is not, however, supposed to be pure india rubber, but appears suitable for the purpose, and is vulcanized. Rubber of a similar quality was laid in the year 1895 in Wellington Court 42, Albert Gate, Knightsbridge, London, and it was ascertained that "it had worn most excellently and given every satisfaction" at that place.

The total cost of the renewal in 1902 of the paving on the incoming road was £5 18s. 2d. [$28.75] per square yard, including laying, after credit had been given for the old rubber taken up. Since the paving was laid down in 1881 the average cost of general maintenance and examination has been slightly under 3½d. [6½ cents] per square yard per annum.

At the recent addition to the Savoy Hotel, London, the courtyard was paved with rubber. The contractors, Messrs. James Stewart & Co., courteously supplied the following particulars concerning this pavement:

> The amount of rubber used in the Savoy courtyard is 2,195 square feet, 2 inches thick, and the weight of the rubber is 15¼ pounds a square foot. It is laid on a concrete foundation, finished with cement floating to make it smooth.
>
> The cost of this material laid is 18s. 8d. [$4.54] per square foot, and it may be added that the cost for the same quality of material varies in direct proportion to the thickness.
>
> We have had no actual experience with this rubber paving for any length of time, but we investigated it pretty thoroughly at the time it was decided to lay it here, and found that the small piece at the entrance to the station at Euston was laid some twenty years ago. The traffic there has been very heavy.
>
> We think there is no doubt that the results of rubber paving will be entirely satisfactory, but the cost will undoubtedly make the adoption of it for general use prohibitive.

The court measures 75 feet by 50, and the cost of paving was £2,000 [$9,733].

H. CLAY EVANS, *Consul-General.*

LONDON, ENGLAND, *June 27, 1904.*

SCHOOL OF COMMERCE IN ENGLAND.

United States Consul Marshal Halstead, Birmingham, England, under date of July 8, 1904, sends the following extract from an English journal:

> An experiment which will be watched with interest and probably imitated elsewhere has recently been commenced at the Victoria University of Manchester. The prospectus for 1904–5 of the faculty of commerce and administration has been published, and it enables one to judge of the true significance of the innovation which some of the younger universities are introducing. The aim of this development is to give a systematic training in what may be called higher commercial subjects, in the study of methods of government and administration, and in economic and social investigation. The student who aspires to the degree of bachelor of commerce must have attended classes in political economy, the organization of commerce and industry, modern history, geography, commercial law accounting, and two modern languages, as well as one or two special subjects. For the degree of master of commerce will be eligible bachelors of commerce of not less than three years' standing who have carried on more advanced studies, and who have presented a dissertation or thesis which has been accepted by the faculty.
>
> In framing the curriculum the end in view has been to insure a wide training calculated to fit the student for any kind of business or commerce, and also to give instruction in subjects akin to what is to be his work in life. Some of those who attend the classes will give their whole time after leaving school to the "business sciences," but it is intended to make provision for those who can spare their evenings only for such studies. Twenty or even ten years ago ridicule would have been poured copiously on such a project as that which we describe. Certain obvious objections or difficulties would have been stated as if they were conclusive, and the promoters of such a scheme would have been told that the old, well-tried curricula

furnished the best training for persons about to enter business or the professions. Failure would have been predicted; it would have been said that such a course of study would turn out a kind of sciolist useful in no walk of life. To-day there will be few criticisms or predictions of this kind. We watch the result with interest and sympathy. Even those who have misgivings about the practicability of making such a course of instruction a thorough mental discipline will be glad to see the experiment tried on the scale which the Victoria University contemplates.

Every university, and more especially those of modern growth, in commercial towns, must face the fact that if a liberal education is to be generally diffused it must be given in new ways; otherwise a large class will be shut out from it. In the view of some of our best minds the most effectual means of awakening and invigorating the higher faculties would be to pass every youth of intelligence through a curriculum somewhat similar to that which the older universities have evolved. But the circumstances of multitudes render such a training impossible. They must go into business at an early age. A liberal education must have relation to that if it is to be theirs. They can not wait to be, in Burke's phrase, "reasonably tinctured with literature;" they must concentrate their intellectual activity chiefly on the subject-matter of their future labors. It may well be that a study of pure mathematics, or of Greek, or of a branch of natural science, would give a finer edge to the faculties and a larger horizon. But the youth who is to enter commerce, like his friend destined for medicine, may have to deny himself many accomplishments and excursions into tempting fields of knowledge. There is here no question of the merits of classical training.

The Victoria University accepts the facts as they are in great towns. For many it is such a training as is offered or none. In fairness to the authors of the scheme, it should be added that it is not intended to cram the student with indigestible useless information, but to discipline and educate. The training is not put forward as "a substitute for experience," but "it should broaden the outlook, train the faculties to analyze new commercial and economic situations, and impart organized knowledge."

What has been done at Cambridge by the new curriculum in economics, and, in a less marked manner, at Oxford, together with the success of the London School of Economics, is a proof of the desire for better instruction than has hitherto been available as to the production and distribution of wealth. Something less bookish and more realistic, less polemical, and with fewer indecisive battles over words, less remote from the world of affairs, a bridge between the higher abstractions of science and the actualities of the man of business, is desired by a class which has neither time nor inclination for the study of what once passed muster as economic science. It is a notable feature of the scheme that on the staff of the faculty of commerce men engaged in business are associated with professional teachers; that, for example, banking will be taught by those practically conversant with the business of a modern bank. We could illustrate the advantage of this sort of instruction by no better instance than accounting or bookkeeping.

Probably there is no subject, not even political economy, as to which a general knowledge based on the study of principles and experience is more to be desired. The want of such knowledge is responsible for so much mischief. A great company comes to grief; its directors have been jockeyed by a clever, ambitious, or unscrupulous manager; there is revealed in the courts a strange mixture of fraud and folly. In the ultimate analysis the cause is often the ignorance of his dupes of the elements of bookkeeping, their inability to apply business tests to his florid statements, or to grasp the full effect of the worked-up accounts put before them. A business that once flourished languishes in new hands; the new owner is puzzled and irritated at the changes in its fortunes; he does not put, as with a knowledge of accounts he might quickly put, his finger on the weak point. In days when Victoria University teaches bookkeeping and Birmingham University promises to have a coal mine on the premises for purposes of tuition "academic" instruction has a new meaning.

Of less obvious value are some of the subjects included in the curriculum. But one and all of them have the merit of making the man of business sit more loosely to the ways and circumstances which he inherits, and be more receptive of changes which the action of his neighbors and competitors renders imperative. We note that among the languages in which instruction is offered are Chinese, including writing and pronunciation, and Arabic, including spoken dialects. This is a timely recognition of the fact that for many these tongues may soon have as great commercial value as French or German. Whether the bachelors of commerce will make money faster than their rivals is far from certain. Nothing that the university can do for its sons can atone for want of mother wit, perseverance, and force of character. It is quite possible, however, that the training outlined in the prospectus will enable men of business to take a larger view of their affairs. Mixing business with brains—and the aim of the new faculty is that—can not but be good.

GERMAN EXPORTS TO THE UNITED STATES.

(*From United States Consul-General Mason, Berlin, Germany.*)

The following statements show the declared values of exports to the United States from Germany:

German exports to United States, by places of shipment, fiscal years 1903 and 1904.

Place of shipment.	Year ended June 30—		Increase (+) and decrease (−).
	1903	1904	
Aachen	$3,007,470	$1,596,659	−$1,410,811
Annaberg	773,230	547,086	− 226,144
Bamberg	1,178,471	1,166,386	− 12,085
Barmen	7,454,774	5,867,140	− 1,587,634
Berlin	9,431,417	9,342,373	− 89,044
Bremen	2,715,463	2,545,692	− 169,771
Breslau	1,347,492	1,436,617	+ 89,126
Brunswick	2,595,643	2,230,360	− 365,283
Chemnitz	8,144,186	6,904,585	− 1,239,601
Coburg	3,552,609	4,055,289	+ 502,680
Cologne	4,374,412	2,804,951	− 1,569,462
Crefeld	3,047,085	2,525,572	− 521,513
Dresden	1,603,326	1,816,223	+ 212,897
Dusseldorf	4,925,842	1,261,787	− 3,664,055
Eibenstock	1,942,943	2,227,257	+ 284,314
Frankfort	8,056,483	7,591,545	− 464,938
Freiburg (of Baden)	1,029,702	975,738	− 53,963
Glauchau	648,446	622,819	− 25,627
Hamburg	11,449,576	10,133,068	− 1,316,508
Hanover	1,134,780	1,533,291	+ 398,511
Kehl	2,688,183	1,428,267	− 1,259,916
Leipzig	7,692,920	7,390,708	− 302,212
Magdeburg	6,325,216	5,925,323	− 399,893
Mainz	2,524,959	2,344,022	− 180,937
Mannheim	6,249,908	4,523,628	− 1,726,281
Munich	940,822	956,125	+ 15,303
Nuremberg	4,782,269	4,555,577	− 226,692
Plauen	4,268,731	4,599,643	+ 330,912
Solingen	1,621,714	1,858,322	+ 236,608
Stettin	1,906,824	1,025,552	− 881,272
Stuttgart	1,392,186	1,451,151	+ 58,965
Weimar	1,209,881	1,554,889	+ 345,008
Zittau	1,377,960	1,425,324	+ 47,364
Total	121,391,923	106,222,969	− 15,171,954

German exports to United States, fiscal years 1898–1904.

Year ended June 30—	Value of exports.	Year ended June 30—	Value of exports.
1898	$74,228,488	1902	$101,714,061
1899	83,999,177	1903	121,394,923
1900	98,812,160	1904	106,222,969
1901	99,887,014		

FRANK H. MASON, *Consul-General.*

BERLIN, GERMANY, *July, 1904.*

FOREIGN COMMERCE OF FRANCE IN 1903.

(*From Export, organ of the Central Union for Commercial Geography, Berlin, Germany, May 25, 1904.*)

French official returns give France a foreign commerce in 1903 amounting to nearly $1,702,620,000, against $1,667,310,000 in 1902. The class of goods and their values, imported and exported, were as follows:

Imports into France in 1902 and 1903.

Class.	1902	1903	Increase.
Food stuffs	$157,890,000	$177,760,000	$19,870,000
Raw and partially manufactured materials	538,470,000	562,300,000	23,830,000
Manufactured articles	150,000,000	157,000,000	7,000,000
Total	846,360,000	897,060,000	50,700,000

Exports from France in 1902 and 1903.

Class.	1902	1903	Increase (+), decrease (-).
Food stuffs	$136,500,000	$125,000,000	- $11,500,000
Raw and partially manufactured materials	226,900,000	223,800,000	- 3,100,000
Manufactured articles	409,100,000	405,900,000	- 3,200,000
Packages by post	48,450,000	50,860,000	+ 2,410,000
Total	820,950,000	805,560,000	15,390,000

Thus the figures for 1903 are in no way remarkable, unless it be in their insignificance in relation to so large a matter as the nation's annual trade. A gain of $50,700,000 in imports and a falling off in exports of $15,390,000 will be far from satisfactory to those who measure success in matters of this kind by reverse conditions, that is, by an increase in exports and a diminution in imports. An increase is noticeable in every line of imports. The increase in the importations of raw and partially manufactured materials for further manipulation in French industries shows that manufacturing has not fallen off, but it also shows the dependence of French factories upon the outside world for their raw materials. The increase in the importations of food and fully manufactured articles shows that the production of France in 1903 was less able to meet the nation's demand than it was in 1902; it gives evidence also of the fact that French farmers and manufacturers are to have a hard fight to hold the home market.

When the falling off in the exports of French foods is considered, additional proof is furnished to show that either the productive capacity of the Republic is not what it was supposed to be or else that it needs regulation. The falling off in the exportations of raw and partially manufactured materials of commerce and of manufactured articles can not be explained, as some seem to think it can, by the parcels-post shipments. It is doubtless true that a very large percentage, in fact almost all, of the goods that go out by parcels-post are manufactured articles. The increase in the imports and the falling off in the exports of finished products are indications of France's inability to successfully compete with foreign countries, particularly in certain lines. On the whole the year was far from encouraging, although it did not differ in degree or kind from what was predicted and expected.

The burdens laid upon the industries of the Republic are such as rob it of the elasticity necessary to enable it to meet its competition.

THE WORLD'S MERCHANT MARINE.

(*From United States Consul Haynes, Rouen, France.*)

Recent statistics published in France estimate the total tonnage of the world's merchant marine at 33,643,000 tons, and the number of vessels at 24,853, of which 12,671 are steamships with 27,184,000 tons and 12,182 are sailing ships with 6,459,000 tons. This gives an average of about 1,540 tons for steamers and 538 tons for sailing vessels.

Although the construction of large ships has greatly developed during late years the greater part of the world's goods is still carried by vessels of average tonnage. The number of ships of over 10,000 tons is only 89. Of vessels over 5,000 tons the following table gives the number and the flag floated:

Vessels of over 5,000 tons.

Flag.	6,000 to 7,000 tons.	7,000 to 10,000 tons.	More than 10,000 tons.
British	366	119	48
German	59	15	26
American	34	7	7
French	30	4	2
Dutch	6	1	4
Russian	10	2	
Austrian	4	1	
Japanese	16		
Spanish	3		
Danish		1	2

The tonnage of the principal countries is as follows: England, 16,006,374; America, 3,671,956; Germany, 3,283,247; Norway, 1,653,740; France, 1,622,016; Italy, 1,180,335; Russia, 809,648; Spain, 714,447; Japan, 726,818; Sweden, 721,116; Netherlands, 658,845; Denmark, 581,247; Austria-Hungary, 578,697; Greece, 378,199; Belgium, 157,047; Brazil, 155,086; Turkey, 154,494; Chile, 103,758; Portugal, 101,404; Argentina, 95,780.

THORNWELL HAYNES, *Consul.*

ROUEN, FRANCE, *June 30, 1904.*

ARTIFICIAL COTTON IN FRANCE.

(*From United States Consul Haynes, Rouen, France.*)

The French chamber of commerce of Milan says that an artificial cotton is now made from the cellulose of the fir tree freed from bark and knots. The fibers, after being pulverized by a special machine, are placed in a horizontal, brass, lead-lined cylinder of some 3,500 cubic feet capacity and steamed for ten hours, after which 2,000 cubic feet of a bisulphate of soda wash is added and the whole is heated for thirty-six hours under a pressure of 3 atmospheres. Then the wood, or fiber, which has become very white, is washed and ground by a series of strong metallic meshes, after which it is again washed and given an electro-chemical bleaching by means of chloride of lime. Passage between two powerful rollers then dries the matter, producing a pure cellulose, which when reheated in a tight metal boiler containing a mixture of chloride of zinc and hydrochloric and nitric acids, to which is added a little castor oil, casein, and gelatin to give resistance to the fiber, gives a very consistent paste. Threads are then produced by passing this paste through a kind of drawplate. These threads, after being passed over a gummed cloth, are immersed in a weak solution of carbonate of soda and passed between two slowly turning drying cylinders. Finally, to give the necessary solidity, the thread is treated to an ammoniacal bath and rinsed in cold water, after which the product is pliable and works well.

In Bavaria experiments have recently been made to produce cotton from pine wood, and it is claimed that the trials have been very successful.

THORNWELL HAYNES, *Consul.*

ROUEN, FRANCE, *June 30, 1904.*

PRINTING PRESSES AND SUPPLIES IN MEXICO.

(*From United States Consul LeRoy, Durango, Mexico.*)

Several times recently orders for presses, type, and other printers' supplies have gone from the city of Durango to firms in Germany. Figures indicating the origin of importations of this sort for the country at large are not available. It may be that the United States gets its share of this trade, but observations made here would indicate that it does not, but that Germany has a big start in this line. Local printers state that Germany's cheaper prices influence their purchases of type especially; but it is probable that habit and the ability to find more nearly what they want in Europe has as much to do with the matter. At any rate, it would appear that the growing field for this sort of manufactures in Mexico might well attract more attention from American exporters. At Monterey and Mexico there are daily papers printed in English by American publishers.

At several other centers of American population in Mexico, such as Torreon, Chihuahua, and Aguas Clientes, there are weekly newspapers printed in English for the American population; and in all these places there is an American job-printing establishment of some sort. In Mexico City, Monterey, and Torreon these American printing establishments are quite well equipped and do excellent job work. Printing as an art had its first seat, on the American continent, in Mexico; and in recent years, with the stabilization of conditions, there has been much modernization of methods and equipment. Outside of the capital, however, the printing shops in the various cities are supplied for the most part with out-of-date equipment, and there should be some chance to work up trade in this line.

JAMES A. LEROY, *Consul.*

DURANGO, MEXICO, *July 11, 1904.*

CANADIAN ENGINEERS OBJECT TO AMERICAN OFFICIALS.

(*From United States Consul-General Holloway, Halifax, Nova Scotia.*)

The Canadian Amalgamated Association of Engineers has presented a petition to the Dominion government asking for the discharge of certain high officials of the Canadian Pacific Railway engineering department on the ground that they are Americans.

The petition is the outgrowth of similar complaints made against the Grand Trunk Pacific. Among the officials whose deportation is asked is William F. Tyre, chief engineer of the road and one of the most important officials of the system.

The petitioners contend that there are plenty of engineers in Canada competent to fill the positions now held by Americans and that the employment of the Americans is in direct contravention of the alien labor law in operation against the United States.

It is understood that the Canadian Pacific Railroad will oppose the petition and that every effort will be made to retain the officials in question. Mr. Tyre came to the Canadian Pacific from one of the American railways as assistant chief engineer, which position he held until a few weeks ago, when he was appointed chief engineer of the system in succession to E. H. McHenry, who resigned to become third vice president of the New York, New Haven and Hartford Railroad.

It is stated that similar action will be taken against other roads in Canada and that all the American officials employed on them will be forced out.

W. R. Holloway, *Consul-General.*

Halifax, Nova Scotia, *July 2, 1904.*

FLOUR MILL AND CAST-IRON PIPING IN ABYSSINIA.

(*From United States Consul-General Skinner, Marseille, France.*)

The correspondent in Abyssinia of Simeon Mirzayantz, 20 Rue Breteuil, Marseille, advises him of the following requirements:

(1) Machinery for a simple flouring mill, first class in quality, and of such construction that it will not readily get out of order. This latter point is especially important, as repairs are obtained with very great difficulty in that country, where there is almost a total absence of skilled workmen. The flour to be produced by this machinery must be fine. The several parts should be detachable, so that they may be transported readily upon camels. Packages should not weigh more than 250 pounds each. It is intended to operate this mill by water, or possibly by horsepower. Full plans should be submitted.

(2) Cast-iron water pipe, from 15 to 20 centimeters (5.9 to 7.87 inches) in diameter. The joints are to be united with screws, inasmuch as these pipes are intended to be deposited at a point where the current of a river to be crossed is exceedingly strong. The importance of the order will depend upon the price of the merchandise. As much as 3,300 feet of piping may be necessary, if the price is sufficiently attractive. The weight of each joint should not exceed 265 pounds.

Mr. Mirzayantz's correspondent adds:

> What is the length and diameter of pipes that may be obtained ready at present time for delivery? If the dimensions which I have indicated do not exist, what would be the cost of executing a special order?

Should this order be placed in the United States, payment will be made by Mr. Mirzayantz himself, who is a merchant of great responsibility. As this is the first opportunity ever presented to American machinery manufacturers to make tenders upon Abyssinian supplies, I am exceedingly anxious that the order shall not escape them. There are many reasons why it might be desirable to obtain this order. There is at the present time no power gristmill in the entire Ethiopian Empire, and if American machinery should happen to be the first to be introduced successfully it is altogether probable that similar orders will be forthcoming in the future.

The machinery and water pipes must be eventually laid down in Jibuti. Through freight rates from New York can probably be obtained from the lines having steamers from New York to Marseille, whose agents can obtain quotations from the several companies connecting with Jibuti. I am now in correspondence with the Compagnie des Messageries Maritimes in regard to offering through rates under a single bill of lading from New York to Jibuti. A tariff will doubtless be arranged ere long.

Robert P. Skinner,
Consul-General.

Marseille, France, *July 14, 1904.*

FLOUR-MILLING MACHINERY WANTED IN ASIATIC TURKEY.

(*From United States Consul Sullivan, Trebizond, Turkey.*)

A request has reached me from a prominent merchant, who purposes erecting a flour mill with a capacity of 400 barrels a day, to have manufacturers of flour-milling machinery forward to this consulate, immediately, catalogues and price lists of such machinery. It is desirable that manufacturers take into consideration the following particulars:

(*a*) Enough machines are required for the production of 400 barrels of flour a day, and they should be first class and guaranteed.

(*b*) Plans and full description should accompany estimates, and the lowest price should be quoted.

(*c*) Water power of about 50 horsepower may be called into requisition. Manufacturers should state what horsepower is required to operate the plant.

(*d*) It would be well, if practicable, to give a sketch of the building required for the installation of the machinery. The building will be constructed to meet the requirement.

(*e*) In making estimates manufacturers must take into consideration the freight to Samsoon and the cost of sending an expert to install the machinery.

I desire to impress upon manufacturers the necessity of paying particular attention to details and to figure only on first-class material and best of workmanship, as the success of this enterprise may lead to a large market for flour-milling machinery here. European flour-milling machinery has proved a failure in Asia Minor, and it behooves our manufacturers to put forth an effort to capture this market.

EDWARD J. SULLIVAN, *Consul.*

TREBIZOND, ASIATIC TURKEY, *June 18, 1904.*

AMERICAN-MADE SHOES IN PERU.

(*From United States Consul Gottschalk, Callao, Peru.*)

There is every evidence of a growing demand for American-made shoes in Peru, notwithstanding the rather high customs duties to which these goods are subject. Quite recently there was opened on one of the principal streets of Lima an attractively furnished store which deals exclusively in American footwear for men and women. The store is called "La Nueva York" and advertises itself—with laudable enthusiasm, if with somewhat a strange notion of geography—as "dealing in all classes of North American footwear." One of the firm is a well-known local exporter and importer, and the new enterprise, to judge from the sales already made, bids fair to prove a remarkable success. The shoes sold here appear for the most part to be such as are generally sold at $4 to $5, retail, in the United States, in calf, kid, velours, and patent leather.

There is certainly, not only in Lima but throughout Peru, a market for American-made shoes, which could be exploited by judicious striving to meet the popular taste at a moderate price. There is no local manufacture of any account, and the market has until recently been supplied chiefly by French shoes of very cheap quality, usually sold at very high prices. This, I am told, has been especially true in the line of women's shoes.

An American manufacturer in preparing a line of footwear for Peruvian trade should bear in mind that during a great portion of the year the streets of Lima and Callao are muddy, owing to the "garuas" (Scotch mists) which fall very heavily, although it never actually rains. Throughout the plantation districts and, generally speaking, on all the roads of the country there is considerable mud to be encountered. A rather heavy-soled shoe, made of stout leather, could be sold here, when in more tropical countries it would find practically no acceptance. The high (10-inch) laced boot furnished to the army, and so often seen among the plantations in the West Indies and Central America, could, I am sure, find a sale in the agricultural and mining districts of Peru, provided it were only made accessible enough to the people in price.

For ordinary walking wear and in cities the popular taste is for shapes somewhat approaching the "straight last" with medium toe and high instep, of medium weight, in kid, patent and russet leathers, and canvas. Enameled leather, strange to say, is not much known here, and ought to prove popular. In women's shoes, I am told, care should be taken to keep in stock a great assortment of the smallest sizes, allowing much height for the instep, with pointed toe and high heel. In this line of goods there are apparently no rules to be laid down as to styles, the most fanciful sorts being those that find most acceptance always.

The present customs duties upon shoes here are:

Peruvian duties on shoes.

Kinds of shoes.	Duty per kilogram (2.20 pounds).
Heavy shoes, of all sorts of leather, for military purposes, and heavy-soled shoes in general, nailed or screwed, for sailors or huntsmen	$0.60
Shoes of fine and ordinary leather, or of cloth (cotton or linen) for men, women, and children, in pasteboard boxes	.97
Shoes of silk in pasteboard boxes	2.67
Shoes of rubber, with or without other materials	.65
Shoes of wood (and also roller skates)	.60
Shoes of straw	.44
Shoes with rope soles, in cases	.18
Shoes in bales or other packages	.22

Particular care should be taken in packing shoes for Peruvian export. It should be noted that duties are charged by weight, and that a case containing loosely packed shoes, no matter of what kind, is weighed and assessed in bulk. This is not done, however, with a case containing shoes packed in separate pasteboard boxes.

A. L. M. GOTTSCHALK, *Consul.*

CALLAO, PERU, *June 24, 1904.*

COCOONS THAT YIELD COLORED SILK.

(*From United States Consul Covert, Lyon, France.*)

Several European newspapers have recently published the statement that Messrs. Comte and Levrat, of this city, had succeeded in so affecting silkworms, by coloring their food, that they would make cocoons yielding colored silk, thus obviating the necessity of dyeing the silk in the thread or piece.

The subject has attracted so much attention that I called upon the gentlemen in question to ask them what progress they had really made in their experiments in this direction, and received from them full information on the subject.

"In experimenting in this line," said one of them, "it is not expected that any commercial advantages will be gained or any discoveries made that will cause any changes in the industry of dyeing."

The gentlemen are engaged merely in laboratory experiments in a field which has been partially worked for the last sixty years. The object of their studies was to discover, if possible, why some breeds of silkworms produce white silk, while others produce yellow or a yellowish-green silk. Their experiments showed them that the natural coloring matter of the cocoons was identical with the coloring matter found in the leaves. It was therefore logical to believe that the color of the silk must originate in the chlorophyl of the leaves fed to the worms.

The experiments which followed, undertaken to test this hypothesis, prove that a coloring matter introduced into the intestines of a worm by means of food may, under certain conditions, reach the silk through the blood.

Thirty silkworms, hatched June 16, 1902, were divided into a number of lots and reared on small branches. One lot was fed on leaves dipped in liquid to color them.

Some of the leaves the worms fed upon were colored a slight red and the worms ate them as they eat ordinary leaves in a natural condition. They grew and developed as if fed on common mulberry leaves. The general color of their bodies became a dark red and the blood extracted from them was of an intense red.

When the cocoons were formed, August 12, a pink silk was reeled from them. The entire cocoon was of a beautiful red. To prevent the silk from being soiled by contact with the coloring matter on the leaves or by the skin of the worms, which might have been spotted by the dye, some of them (the worms) were washed and placed on freshly gathered branches where they at once began to form cocoons as red as the first lot.

Two worms that had been eating colored leaves were separated from the others at the fourth moulting (July 27) and fed for the rest of their lives on uncolored leaves. Little by little they lost the color received from the other leaves, and the silk reeled from them had only the slightest tinge of rose. In the excrement of these worms considerable quantities of red were found during the first two or three days, the quantity diminishing daily to the end of the larval period (August 14). The coloring matter contained in the blood passed into the intestines, and the red was completely eliminated in eighteen days.

The worms selected from the lot at the fourth moulting (July 23) were fed on colored leaves only during the fifth period of life, and they rendered, on August 10, cocoons as red as those of the first lot, in which the worms had been fed on colored leaves during the entire larval period. The absorption of red during the last period is therefore necessary and sufficient to color the silk.

A fourth lot was composed of worms fed on methylene blue. They ate this with less avidity; and a number, in their efforts to escape this food, fell from the branches and were lost. They formed their cocoons slowly and rendered but little silk, which was of a slightly bluish color.

Another lot of worms, the Atticus orizaba (this is a wild worm which does not eat mulberry leaves), were fed on leaves of the troene, a tree of the olive family (Ligustrum sp.). These leaves were dipped in a solution of picric acid. The well-known toxic qualities of that coloring matter did not prevent it from being eaten, but the worms did not relish it keenly and made no cocoons until September 4. Notwithstanding the coloring power of picric acid the silk remained white.

Thus we see that the neutral red passes easily by osmosis through the tissues, while methylene blue passes with difficulty, and picric acid leaves no trace of color.

The varying results of the different experiments are due to the different coloring matter tried. The well-known properties of the neutral red and the methylene blue in coloring tissues marked them for experiments of this kind. As to the picric acid its absorption by the worms seemed to be so strange that the workers were led to carry on their experiments to the end. In order to give a careful answer to particular inquirers, inspired by the belief that the thread was possibly soiled by contact with the coloring matter, a subcutaneous injection was made, in the worms ready to form their cocoons, in the false feet so as not to injure any organ. These worms immediately became red without appearing to suffer in the least. They produced a slightly reddish silk.

The experiments demonstrate that the injection of coloring matter into and through the sericigene gland is less easy with the bombyx (black bombyx is a domestic worm that feeds on the mulberry) than with the Atticus orizaba.

From the investigations and experiments made, it is inferred that a coloring matter may be passed from the digestive tube through the blood upon the silk. The coloring matter possesses in a different degree the power to cross by osmosis the tissues of silkworms, and each race of silkworms is characterized by the osmotic power of its tissues in relation to different coloring matters, permitting the passage of some to the exclusion of others. This explains the natural coloring of the Lepidoptera.

JOHN C. COVERT, *Consul.*

LYON, FRANCE, *June 28, 1904.*

A "HOSPITAL TOWN."

(*From United States Consul-General Guenther, Frankfort, Germany.*)

When the new hospital in Vienna, of which the foundation stone was recently laid by the Emperor of Austria, is completed it will form quite a town in itself, writes the correspondent of the London Daily Mail.

The total area covered is 2,400,000 square feet, and there will be 40 separate buildings, of which 32 will be clinics or hospitals and the remaining 8 will be devoted to offices and residences for the staff. All the clinics will have flat roofs with gardens, so that patients, particularly consumptives, can be in the open air as much as possible. Each patient will have 1,030 square feet space, the largest proportion of space allotted to a patient in any hospital in the world.

A correspondent of the Frankfurter Zeitung says that the ultimate cost will be from $7,000,000 to $8,000,000.

The hospital will be on the "pavilion" or "cottage" plan. Each pavilion, with its sick wards, operating and lecture rooms, will form a hospital by itself, and of these there will be 18. The hospital will have 2,300 beds. The magnificent operating rooms will be of a new type. In the clinics for infectious diseases the patient will be separated from the professor and the students by a glass partition.

A number of medical students will live in the hospital for the purpose of close study and observation. The latest technical achievements will be utilized throughout the institution.

RICHARD GUENTHER,
Consul-General

FRANKFORT, GERMANY, *June 27, 1904.*

AMERICAN APPLES IN FRANCE.

(*From United States Consul-General Skinner, Marseille, France.*)

The French customs administration has issued a letter of administration, dated June 20, 1904, of which the following is the substance:

> You have been good enough to inform me that the San José scale has attacked the fruit trees of America, and that the importation of apples from America involves danger to the French orchards. You express, in consequence, the desire that the

custom-house agents receive orders to examine with special attention the arrivals of this fruit, in order to avoid the introduction of the insect into France. I have the honor to inform you that I am reminding our agents this day of the dispositions of article 2 of the decree of November 30, 1898, which prohibit the entry into France of fresh fruits and of the débris of fresh fruits, likewise material employed in their packing and transportation, when the presence of the insect has been established in the shipments. Shipments will be the object of a minute examination, proceeded with in conformity with instructions contained in a pamphlet edited by M. Girard upon the San José scale.

Robert P. Skinner,
Consul-General.

Marseille, France, *July 1, 1904.*

BERMUDA BIOLOGICAL STATION.

(*From United States Consul Greene, Hamilton, Bermuda.*)

In July and August of 1893 thirty-one college professors and instructors visited Bermuda and for six weeks made investigations upon the flora and fauna of land and sea, under the auspices of the Bermuda Natural History Society and Harvard and New York universities. This expedition was the first fruit of seven years of effort on the part of the biological department of New York University (Prof. Charles L. Bristol in charge) to establish a biological station in this region. Professor Bristol visited Bermuda with a party of New York University students in 1897, and spent about six weeks in collecting and studying the animal life of the sea. He found an unexpected wealth of specimens and a climate in which his party could work during the summer months without risk to health, either from extreme heat or from sickness. These factors suggested to him the importance and feasibility of establishing a biological station in Bermuda that should provide for the biologists of North America what the zoological station at Naples provides for the biologists of Europe.

New York University has continued its summer expeditions during these years. Mr. A. E. Verrill, professor of zoology in Yale University, has visited the islands twice, making collections and gathering data that have resulted in the publication of very valuable papers containing additions to scientific knowledge. Besides these technical contributions Professor Verrill has prepared and published the first volume of a history and description of Bermuda, which is by far the best work published on the natural features of the islands, and is indispensable as a reference book. The second volume is planned to be given almost wholly to zoology and promises to be the best work in its line. A very valuable feature of Professor Verrill's work is the great number of excellent illustrations prepared by A. Hyatt Verrill.

Contemporaneous with the growth of interest by outsiders, there has been a marked increase in interest among the Bermudans themselves in the natural history of their reefs and hillsides. This interest received its greatest impulse at the time of the jubilee of Queen Victoria in 1897, when the colony appropriated a sum of money with which to build a memorial library and museum. As a natural result of the prospect of having a permanent home for natural history collections, a number of the most influential citizens of the colony formed themselves into the Bermuda Natural History Society in 1901. The society became incorporated one year later. The present honorary secretary is Mr. F. Goodwin Gosling, Hamilton, Bermuda.

The reasons, stated succinctly, that have led up to the establishment of the station are: First, there is as yet no subtropical biological station available to American investigators on the Atlantic coast; second, Bermuda offers ample material on her coral reefs for such investigations; and third, the climate is healthful and pleasant throughout the year.

The American consul in Bermuda, in view of the great interest that the universities and colleges of America have in the establishment of such a station, has felt it to be a duty, that has also been a great pleasure, to forward the efforts made by American scientists to establish a biological station in these islands, and to report that progress has been made as follows:

The assent of the Imperial Government has been given to the project, upon the advice of the Royal Society.

The colonial government has expressed its willingness to purchase the land and to erect the building, which will also provide a public aquarium.

The Royal Society of London has made a grant toward the equipment and has given its hearty approval.

The Carnegie Institution has made a grant from its funds for the support of three tables for a limited period.

Harvard University and New York University are assisting in carrying out the project, and they, in connection with the Bermuda Natural History Society, have organized a temporary laboratory, at which they have begun the work that will be continued in permanent quarters near by.

In view of the interest and of the importance of this work, as evidenced by the facts stated above, I can not but urge that the Government of the United States take formal steps, through the Smithsonian Institution, for a generous support of the station.

W. Maxwell Greene, *Consul.*

Hamilton, Bermuda, *July 6, 1904.*

GLAZED BUTTER IN GERMANY.

(From United States Consul-General Richard Guenther, Frankfort, Germany.)

Under the caption "Glazed butter" German papers state that it has long been known in Germany that butter can be glazed by the use of sugar; that is, it can be coated with a glass-like sugar covering. This method, the papers state, seems to become of some importance, as it recently has been used on a large scale in England for butter sold in forms.

The Druggist's Journal calls attention to the usefulness of this innovation and says that butter so treated keeps fresh for a longer time than if not treated. It is first carefully kneaded and washed, then put into forms weighing 1 pound each, and placed in a cool room. The glazing is done by painting the surface with a hot sugar solution. The brush used should be very soft and the painting should be done quickly. The sugar solution melts the surface of the butter, and the sugar and melted butter form a sort of varnish which protects the butter against deterioration from outside influences.

Richard Guenther, *Consul-General.*

Frankfort, Germany, *June 29, 1904.*

DAIRY PRODUCTS IN GERMANY.

(*From United States Consul Harris, Mannheim, Germany.*)

BUTTER.

One of the effects of the rapid introduction of cream separators and other modern dairy appliances in Germany has been to greatly improve the quality and to increase the consumption of butter. Previous to 1895 Germany's exports of butter had exceeded her imports of the same article. In the year named the importation of butter into the Empire exceeded the export by 233 tons. In 1900 the excess of the import over the export had risen to 13,129 tons. The total amount imported in 1903 was 23,388 tons, against 15,800 tons in 1902.

The countries sharing chiefly in this trade, each in an increasing degree, from year to year, are (the figures given being for the year 1903): Holland, 7,671 tons; Russia, including Siberia, 7,654 tons; Austria-Hungary, 4,669 tons, and Denmark, 2,340 tons.

France and the United States also share in the trade, but not in an important degree and with no marked tendency to increase the amount shipped. In the case of the United States this may be due in large part to the domestic market being able to take at fair prices the total present production of first-class butter. How far the increase of American creameries and the growth of dairying as an industry may make a further market desirable is perhaps a question.

SWISS CHEESE.

The consumption of imported cheese in Germany is large and includes large amounts of Swiss cheese. The excellent quality of this class of cheese produced in Wisconsin, Ohio, and other States should make its introduction as a competitor of the Swiss product fairly easy.

It need scarcely be said that any efforts to sell food products in Germany must take into account the requirements of the trade, legislative restrictions, etc. Notwithstanding that German butter is, as a rule, unsalted, rancid or poor butter is rarely found in this part of Germany in hotels or even village restaurants. It is lighter in color, owing to the fact that cows are not allowed to run in pasture, but it is, as a rule, palatable. The collectors of rancid or otherwise inferior butter in the United States for treatment and resale at a low price could not hope to gain a footing in this market.

A thorough study of the demands of the market and the use of special care in the packing and shipping of the product would certainly be required. Rigid inspection in the interests of health always furnishes a convenient barrier to the introduction of foreign articles of food which compete with domestic products. Germany's application of such inspection to her native meats and other food products is well known, and is obviously to be remembered by the foreign dealer who would sell the same class of products in this market.

H. W. Harris, *Consul.*

Mannheim, Germany, *June 14, 1904.*

COOPERATION IN BUTTER AND EGG INDUSTRIES IN DENMARK.

(*From United States Consul Mahin, Nottingham, England.*)

It is obvious to one who has been in England a short time that something is radically wrong with the British dairy industry. That the English themselves realize that something is out of joint is evidenced by recent discussions and the arrival at the conclusion that English dairying needs cooperative organization.

More foreign than domestic butter is consumed in England, and its average price is less than that of the home butter, even after freight and middlemen's profits are paid. England's imports of butter are chiefly from Denmark, about nine-tenths of Denmark's entire butter export coming hither. Denmark exported 220,000,000 pounds of butter in 1903, of which 200,352,000 pounds came to the British Isles. Denmark received therefor nearly $50,000,000.

An explanation of this situation, unpleasant if not alarming from the British view point, is found in the Danish farmers' cooperative societies, which seem to be able to successfully meet and overcome difficulties which would wreck individuals unsupported by organization, and which seem by their united effort to defy competition in the marketing of their products. There are said to be over 1,000 such cooperative societies in Denmark, with fully 150,000 members. Besides these are the cooperative creameries, numbering 1,057, with 150,000 members.

It is stated that the butter trade of Siberia is being organized in the same way, apparently by Danish companies which are establishing branch organizations in that country. If the statement be a fact, it would give color of truth to the charges made in England that much of the so-called Danish butter is in fact Siberian.

The egg trade is similarly organized in Denmark, and, as in the case of butter, over nine-tenths of that country's exports of eggs come to the United Kingdom. The Danish cooperative egg exporters' societies contain 65,000 members. Besides other elements of success in their working, they are said to be extremely careful that no stale eggs are exported.

FRANK W. MAHIN, *Consul.*

NOTTINGHAM, ENGLAND, *July 12, 1904.*

DECLINE IN ENGLISH FARM VALUES.

(*From United States Consul Mahin, Nottingham, England.*)

The excessive importation of food products from foreign countries is charged with direct responsibility for a great decrease in the value of farm lands in this county. Recent investigations of values of agricultural lands in Lincolnshire disclose an extraordinary decline; possibly, however, not typical of all England, for it is believed that in the county named the depression is particularly acute. It is stated that in some instances persons who a few years ago invested their all in land, and also mortgaged it to raise money to complete the payments, find now on attempting to sell that they can not get even the amounts advanced on the mortgages.

Many instances of remarkable decreases in value are given. In one case where a farm of 315 acres, which cost $74,000, was offered at auction the highest bid was $20,000. The owner of an estate which cost nim nearly $300,000 is now vainly trying to sell it for just one-half of that price. An estate of 628 acres, which sold in 1901 for $110,000, was in May of this year valued for probate at only $43,000. In comparison with years in the distant past the situation appears no better. A farm of 134 acres, purchased in 1881 for $30,000, sold for only $15,000 in 1901, and would probably bring even less to-day. Thirty-four acres, costing $8,000 in 1860, recently sold for $2,500. A tract of 103 acres brought over $30,000 in 1828, and a mortgage for $25,000 was placed on it; this year, in April, it sold for less than $14,000. But the severest phase is the decline in the values of small farms of from 30 to 100 acres, the property of persons who can least afford the loss they suffer. Many cases are given where sales were for one-half and even one-third the purchase price, and often the selling price failed to cover the mortgage given upon the property.

Rent rolls are also suffering. Instances are cited where they have decreased one-half and more. In one case a renter of a farm increased his holdings by leasing an adjoining tract of the same size, and he now pays less rent for the two than formerly for the one farm. In these cases the chief sufferers are those who can best afford the loss.

The cases cited are all in Lincolnshire. The great depression there has caused the farmers to look about for other sources of revenue than those which are so disastrously affected by foreign imports, and just now many are turning to strawberries. Fields hitherto covered with small-grain crops are this year devoted to strawberries. The daily yield of the county is estimated at 250 long tons. Special trains are necessary to carry the berries to market—two or three a day, of 30 to 35 cars, each car holding nearly 1,000 six-pound baskets of the fruit.

Flowers are also being cultivated in Lincolnshire to a greater extent than ever before. Whole fields, in some cases extending as far as the eye can reach, are devoted entirely to flowers. They are packed in boxes, and it is said that the shipment of 10 tons a day is not an unusual record at a single railway station.

Celery and carrots are also being grown in Lincolnshire to an extent never before thought of. The former yields $150 to $300 to the acre, while small grain yields only $40 to $50. But unfortunately only a certain character of soil is favorable to celery culture, or the temptation would be to turn Lincolnshire into one vast celery bed. Much attention is also given to carrots in the attempt to retrieve losses due to the flood of imports. An acre will produce from 15 to 25 tons, at $10 a ton. The process of seeding is novel. The farmer mixes sand with his carrot seed, to prevent its being too thickly sown and thus being in large part wasted. A field, then, somewhat resembles a desert, across which the wind would whirl clouds of sand did not the farmer slightly ridge and then roll the field, checking the wind's effect.

Whether the experiment of substituting strawberries, celery, and carrots for small grain, and in some cases for dairy products, will sensibly relieve the distress in Lincolnshire is a question which may not be answered for several years.

FRANK W. MAHIN, *Consul.*

NOTTINGHAM, ENGLAND, *July 12, 1904.*

IMPORTS OF COTTON INTO NORWAY.

(From United States Consul Cunningham, Bergen, Norway.)

A few days ago I noticed the statement in a Norwegian paper reviewing manufacturing industries that "the American kinds of cotton used in this country could not be bought in Europe." I wondered why Europe should be ransacked for American raw cotton, when no effort was made to buy in the country of its growth. In investigating I find that it has been the custom for the cotton manufacturers here to buy American cotton in Europe and not in the United States. In the last five years but little cotton used by the factories in Norway has been imported directly from the country of origin, the United States, and in one of these years none at all.

There are some fifteen to twenty mills in Norway which spin yarns or weave the common kinds of domestic cotton goods, and some of them make the finer laces and tricots of cotton. They are all small, it is true, when compared with the large mills at Manchester and in the United States, but they imported 6,000,000 pounds of cotton in 1901.

There is no import duty on cotton.

The following table shows the quantities of cotton imported into Norway each year from 1898–1902, and the country from which it came:

Imports of cotton into Norway, 1898–1902.

Country.	1898	1899	1900	1901	1902
	Pounds.	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*
Sweden	30,648	58,058	58,300	124,698	97,878
Denmark	146,960	93,852	204,821	701,140	359,961
Germany	973,280	670,010	1,131,240	943,822	1,647,008
Netherlands	318,010	196,152	197,868	458,502	447,788
Belgium	1,769,778	2,225,542	1,011,824	1,241,548	641,476
Great Britain	2,721,378	2,777,852	2,462,372	2,019,402	2,516,294
France	155,738	145,728	192,500	141,504	97,218
United States	56,188	78,628	222,156	421,894	....
Other countries	4,906	....	14,300	....	....
Total	6,175,884	6,245,822	5,495,381	6,052,508	5,807,623

E. S. CUNNINGHAM, *Consul.*

BERGEN, NORWAY, *June 6, 1904.*

IRRIGATION IN CANADA.

(From United States Consul-General Halloway, Halifax, Nova Scotia.)

The irrigation project of the Canadian Pacific Railway Company now being carried out in Alberta embraces the opening up of a block of 3,000,000 acres of land lying east of Calgary and intersected by the main line of the Canadian Pacific Railway. The soil in this vast area is first class, but in most years the rainfall is not sufficient to mature crops.

The water for irrigation in this block is being taken from the Bow River, near Calgary, by means of a main canal that has a bed width of 60 feet and water depth of 10 feet. This main canal is about 20 miles long. From it the water will be distributed through a system of secondary or smaller canals, which will ultimately attain a length of several hundred miles.

The surveys completed indicate that about half the block, or 1,500,000 acres, can be irrigated. The remaining half will be devoted to grazing and dairy farming.

The first part of the undertaking, which is now in hand, includes the construction of the main canal and about 100 miles of secondary canals. This work will irrigate and bring under cultivation 300,000 acres and open up an additional 500,000 acres for grazing and dairy farming. The part of the scheme now being proceeded with is estimated to cost $1,300,000. If it prove a success, more will be done from time to time until the whole scheme is carried out, at an estimated cost of between $4,000,000 and $5,000,000.

Work on the construction of the main canal has been commenced. The completion of this canal involves the moving of about 2,200,000 cubic yards of earth, and the work is being done with a power plant, including steam engines which operate large power scrapers moving from 4 to 8 yards of earth at each trip.

In addition, some powerful elevating scrapers which are operated with ten teams of horses are being worked, the material from these scrapers being delivered by special dump wagons. A large force of men is being employed along the line of the canal, and the work now in hand will take about one year to complete.

W. R. HALLOWAY, *Consul-General.*

HALIFAX, NOVA SCOTIA, *June 27, 1904.*

THE COMPAGNIE GÉNÉRALE TRANSATLANTIQUE IN 1903.

(From United States Consul Thackara, Havre, France.)

The following is a résumé of the annual report of the Compagnie Générale Transatlantique for 1903:

The value of the company's steamers, real estate, material, and supplies on hand, and personal property at the agencies on December 31, 1903, was (amortization amounting to $1,225,742.39 deducted) $23,677,854.74, against $24,538,930.87 on December 31, 1902, a decrease of $861,076.13. The assets were $29,983,985.33, an increase of $515,219.16 over those of the previous year.

The total receipts for 1903, including the bounties and subsidies received from the French Government, were $10,640,416.33, against $9,938,951.31 in 1902, an increase of $701,465.02. The total expenses in 1903 were $9,125,173.84, an increase of $282,642.23 as compared with 1902. The entire excess of receipts over expenditures for the year 1903, amounting to $1,515,242.39, was appropriated to the amortization of the fleet and to a special fund for purchasing new boilers and making large repairs, no dividend being declared.

The insurance fund on December 31, 1903, was $1,080,780.24, against $863,664.54 in 1902, an increase of $217,115.70.

Mr. Eugene Pereire, the former president of the company, on account of failing health asked to be relieved from the duties of his office, and was made honorary president by the board of directors, Mr. Jules-Charles Roux, ex-deputy from Marseille, being chosen to succeed him.

A. M. THACKARA, *Consul.*

HAVRE, FRANCE, *July 5, 1904.*

AMERICAN HOSIERY AND UNDERWEAR IN EUROPE.

(*From United States Consul Monaghan, Chemnitz, Germany.*)

The following synopsis of a conversation which I had with an importer of American hosiery and underwear into European countries should be brought plainly and directly to the attention of our manufacturers. American consuls have been calling attention to the weak points in American methods of seeking and securing foreign trade. With the world just entering on a commercial era unprecedented in history, the work of finding and holding foreign markets is to be no child's play. To cut the canals of the world; to build its roads and railroads of all kinds; to open its mines, compared with which those opened in the past are insignificant; and to supply the canned food, clothing, tools, machines, and utensils of all kinds that will be wanted in China, Russia, all parts of Africa, South and Central America, etc.—these are the problems presented to our manufacturers and exporters.

In the contest that is inevitable, the American consuls can be relied upon to do as good work in the future as they have done in the past, and better work has been done by no other consuls and by no other agents. The fact furnished by the report under consideration, that there is a field or market for American hosiery in Europe, is applicable to nearly all other American products. There is a market for American fruits, fresh and dried; there is a market for all kinds of tools and utensils; there is a market everywhere for American shoes, etc., but the way to win these markets is along the lines so pertinently pointed out by our consuls, and so forcibly emphasized in the following plain talk to our hoisery manufacturers and exporters by a German hosiery importer:

The introduction of American textile products into Europe has slowly but surely increased during the past years, and will increase more rapidly just as soon as American manufacturers and exporters make up their minds to pay more attention to the wants of the European markets. The American has given too much attention to the home trade, and in doing so has neglected to study the wants of the markets on this side. When Americans decide to give these markets the attention necessary there will be a greater field open to them.

In all my experience I have never found manufacturers and exporters as careless about their correspondence as are the Americans. Of course there is a reason for this, viz, they have so much to do at home; but the time will come when they will have to devote more time to foreign markets, and the sooner this is done the harder it will be for us Germans to compete with them in the markets of the world. If a German manufacturer or exporter appointed an agent in any part of the world to sell his goods the first thing he would do would be to instruct him regarding prices, payments, discounts, etc., and he would answer his letters by return post even if he had to neglect his home correspondence for a time. This the American neglects to do. For example, in sending out samples price lists are inclosed if desired; a "miss's" hose, size 9½ is given, while a 9½ hose is not a "miss's" but a lady's hose; prices are put down in dollars without any explanation whatsoever; one is always in doubt whether the price given is for a certain size or for the average size, or for each and every size. (This last holds true if the buyer orders a large assortment which contains about an equal number of dozens of large and small sizes. This is understood by all men in the business.)

Such conditions have a tendency to make business difficult and at the same time to very materially affect the faith of the foreign purchaser of American goods. They are due to the fact that the American manufacturers and exporters have too little time to give to foreign buyers, and for this reason they lose a large part of the foreign trade. They will have to come to it, however, and the sooner they take time to make a study of what the foreign markets want and the way they want it the greater will be their opportunities for getting and holding foreign trade. If German manufacturers and exporters were to pursue the American methods with regard to foreign trade it would not be long before their export trade would come to a standstill. It is due to attentiveness to detail and looking after the wishes of foreign buyers that Germany is in a position to compete with the nations of the world in all markets.

Again, every manufacturer of hosiery in the United States limits his products to a few numbers, so that it would be an easy task to give full instructions. Take, on the other hand, the smallest German exporter, and see the trouble he has to instruct his representatives (for German exporters have thirty and more representatives at the same time). Every collection contains at least 100 numbers, which must be replaced each year by new qualities and designs. American manufacturers do not need as many agents, but the few they have should have full and complete instructions. It would be an excellent idea for several American exporters who really wished to extend their foreign trade to join and have their European representatives go to America, so that business matters might be talked over on the spot, say, four manufacturers, at $150 apiece. The expense would be relatively small, and in this way things could be talked over and matters settled which would take too long by correspondence. Manufacturers here think that when American business men decide to do anything money is no object, but this is not so, for, as regards expenses and samples, they are not at all liberal. If these manufacturers only knew how many collections were sent out gratis by German exporters they would not be so careful of their samples. As for sending out samples to markets unknown to them, it is not to be thought of.

All these are difficulties which an agent of an American textile manufacturer must overcome little by little. It would be of inestimable benefit to both if the manufacturer would try to meet his agent halfway and arrange everything satisfactorily so as to avoid loss of time.

Then, again, the American should try to win his customers, for it is generally believed here that goods delivered cheap are not all up to the samples. It is very easy to see that manufacturers should give the first trial orders, which are never less than two cases, and very often more, the most careful attention, and see to it that the goods delivered are in every respect the same as the samples. It is clear that if these first orders are carefully looked after a large business maybe done. Customers have declared on giving the trial orders that they can use from ten to fifteen times the quantity ordered if the goods turn out as good as the samples.

One great difficulty for the agent is the persistency with which the Americans stick to their qualities. A German manufacturer always tries to get up new designs, and to imitate all goods competing with his if he can get hold of them. This the American does not do; he merely sticks to his old numbers. In most cases it seems the desire is wanting to get up something new or he does not understand how. He lacks the wish to accustom himself to the wants of his customers.

Some of these evils have been removed with the help of the Government, which is doing everything in its power to help exporters.

As regards American goods in the European market, only three numbers come properly into consideration, viz, two qualities of hosiery and one quality of gentlemen's underwear. In Germany the one quality of underwear is salable only to retailers. The principal hindrance to placing American underwear on the German market is the high duties, which amount to 95 pfennigs [22.6 cents] for 1 kilo (2.20 pounds). As American manufactures are almost without exception fine articles, the duty makes quite a difference in price. However, in spite of this, the better numbers of underwear, especially those with worked borders, can enter into competition with German goods, as they can not be produced in Germany at the same price. In Germany retailers buy this class of goods, in the Orient wholesale houses. In the Orient a large business can be done.

In women's and children's hosiery, ribbed goods in two weights are mostly sold. In Germany this class of hosiery can not be sold on account of its weight. In other countries, however, where there are no duties or where the duty is the same on German and English goods, there is a great demand. A number of orders for seamless hosiery have also been received, but no large orders up to date.

The best way to get hold of the European market would be for the largest and best American manufacturers to go into this business seriously and to spare no pains to attain this end. Every beginning is hard, but even if the results are at first not apparent and the profits scarcely cover the outlay, later years will bring the reward.

My only object in forwarding the foregoing is to bring to the notice of American manufacturers and exporters the position that some of the German importers of American goods take.

J. F. MONAGHAN, *Consul.*

CHEMNITZ, GERMANY, *July 5, 1904.*

LOCOMOTIVES USING SUPERHEATED STEAM IN GERMANY.

(*From United States Vice and Deputy Consul-General Mason, Berlin, Germany.*)

Since my report of May 13, 1904,[a] information has been received relative to further comparative trials of locomotives equipped with Schmidt superheaters. On the distance between Sommerfeld and Berlin an accurate record was kept of the performance of a twin locomotive using superheated steam and of two similar compound locomotives using ordinary steam, and it was found that the engine with superheater showed an economy in the amount of coal used amounting to 10.9 per cent and of 25.8 per cent in the amount of water used. During these trips the engine with superheater made much better time at starting than the compound engines at the 15 stations where the train stopped, and it made better time in climbing a considerable ascent near Frankfort-on-the-Oder. Judging by calculations based on the amount of steam produced, it was estimated that the real saving in coal should have been 15.3 per cent instead of 10.9 per cent, the saving actually attained.

According to the report of J. Obergethmann, professor at Aix la Chapelle, locomotives equipped with the most perfected form of superheaters and compound locomotives were tested by the Halle railroad directory, and the average economy in the amount of coal used by engines with superheaters was 11 per cent, and 23 per cent less water was used. Scientific investigations also showed too great a difference between the economy in water and that of coal. The most exhaustive comparative tests that have been made public were described in a lecture of Mr. Unger, a railroad inspector, to the Union of German Mechanical Engineers, which has been subsequently published in Berlin. The management of the Stadtbahn of Berlin, whose lines run through and around the city, caused three engines of types considered best adapted to the service of the railroad, to be tested under conditions as nearly alike as possible. Owing to the fact that engines using superheated steam gather speed much more rapidly at the start than other locomotives, they are especially adapted for urban traffic, and the locomotives with superheaters gave much better results than the two competitors using ordinary steam.

The conclusion reached by Mr. Unger as a result of the trials made on the Stadtbahn was that the three-fourths coupled locomotive with superheater is, owing to its greater efficiency and economy, the only locomotive worthy of consideration for the hauling of heavy trains in interurban traffic. Taking the amount of coal consumed by the locomotive, with superheater as the unit of consumption or 1, the consumption of the three-fifths locomotive with three cylinders was 1.50, and that of the three-fourths coupled engine was 1.37. The saving in coal of twin locomotives using superheated steam, over compound locomotives using ordinary steam, varies according to the nature of the service rendered, but the results indicated above would show that 10 to 11 per cent economy may be at present attained under normal conditions of traffic, and it is likely that this economy may be increased by further improvements in construction.

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[a] Published in Daily Consular Reports, No. 2016, July 29, 1904.

The fact that the compound engine can be replaced by the simpler twin engine, with increase of power and lower pressures in the boiler, would seem to warrant the satisfaction of the Prussian railroad authorities with the results obtained by them in the use of superheated steam, even if no economy in fuel were attained.

DEAN B. MASON, *Vice and Deputy Consul-General.*

BERLIN, GERMANY, *June 20, 1904.*

NEW TREATMENT OF CONSUMPTION.

(*From United States Consul-General Guenther, Frankfort, Germany.*)

Professor Jacob, first physician of the hospital "Charité" of Berlin, lectured a few days ago before the Berlin Society for Internal Medicine on a new mode of treatment of consumption of the lungs originated by him.

Professor Jacob started with the presumption that the remedies usually employed do not reach the location of the disease at all, and he therefore conceived the idea of introducing medicaments directly into the lungs. Through numerous experiments on animals he became convinced that such injections are very well borne by animals. The manipulation is very simple and can be undertaken by every physician who is familiar with the use of the throat mirror (Kehlkopfspiegel). After the trachea and larynx have been made insensible by cocaine or anesthesine, a thin rubber tube is introduced into the lungs and the medicine is injected through it. The whole process lasts hardly ten minutes.

Professor Jacob has found that the most efficient remedy is the well-known "tuberculine" which Professor Koch used thirteen years ago; next in efficiency is creosote. He succeeded in this way in making the tuberculosis bacilli disappear completely in from four to eight weeks. So far he has treated only five patients by his method, though he expects its general adoption. He added that through this new method a safe diagnosis can be made of consumption of the lungs, while this has so far not been possible. Heretofore tuberculine was injected hypodermically to demonstrate whether a person suffered from tuberculosis; yet even if the reaction was positive, nothing was known about the seat of the tuberculosis. Now only his new method of "lung infusion," as he calls it, needs to be employed to determine whether tuberculosis of the lungs exists. It is reported that the lecture was received with great applause.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *June 16, 1904.*

COTTON CULTURE IN THE DUTCH COLONIES.

(*From United States Consul-General Pitcairn, Hamburg, Germany.*)

In the Netherlands a committee has been formed for the promotion of the culture of cotton in the Dutch colonies. The Dutch Government is reported to have promised its support and assistance. A report recently published by the committee had annexed to it as exhibits copies of letters from Surinam containing information on the result of culture, by way of experiment, of sea island and upland cotton. Samples accompanying such letters furnished proof of the possibility of successful culture.

Experiments in the culture of cotton have been made on the island of Java also, two different species having been planted, of which one is domestic and the other was imported from the United States in 1861. The latter is said to have a longer staple than the former. The exports of cotton from the Dutch East Indies in the year 1902 amounted to about 5,300 tons, of which almost one-half was of Javanese growth. The administration of the residency of Samarang, the chief center of the cotton culture, is promoting and protecting the interests of the cotton planters in every respect. The Government has placed at the disposal of the said administration the sum of $2,416, to be used as loans and advancements to the native population for improvements and extension of the cotton culture.

Another report has been received from Paramaribo, in which it is stated that extensive experiments are also being made in that district.

The Dutch committee, the experiments having now sufficiently advanced, intends to establish a permanent business office.

HUGH PITCAIRN, *Consul-General.*

HAMBURG, GERMANY, *June 29, 1904.*

PROTECTION OF SALMON IN PUGET SOUND AND FRASER RIVER.

(From United States Consul Dudley, Vancouver, British Columbia.)

A conference between representatives of the salmon canneries on Puget Sound and those on the Fraser River was held here July 7. The most important question discussed at this meeting was that of salmon propagation. That the run of sockeye salmon is rapidly decreasing is conceded by all. In the year 1903 the pack both on the Sound and the Fraser was but 30 per cent of that of 1899, the corresponding year in the cycle of four years which characterizes the run of this fish.

The commissioner of fisheries for the Dominion of Canada has complained in his reports for the last two years that the salmon-packing business was being hazarded by "excessive fishing." In his last report the British Columbia commissioner states that at two of the hatcheries on the Fraser the government was able to obtain salmon eggs to only 10 per cent of the capacity of the hatcheries, and that no salmon had reached 75 per cent of the original fishing grounds.

These facts seem to show that the "close season" provided by the regulations of the Canadian government has not succeeded in accomplishing its purpose. In 1903 the pack on Puget Sound was 165,000 cases of sockeyes, and on the Fraser River 187,000 cases. It is claimed by the Puget Sound cannery men that the Sound traps presented a barrier of but 10 per cent of that presented by the gill nets on the Fraser River.

At the conference the Sound packers proposed to recommend to the legislature of the State of Washington the passage of a bill providing for a close season on the Sound, to correspond in duration with that on the Fraser River, provided a measure could be agreed upon that would insure the escape of salmon during 36 hours in 168 hours every week, or, say, 21 per cent, from the fishing appliances on both Sound and river. To effect this purpose some "graduated" close season will doubtless be required. To make the situation plain: The salmon in moving from the Straits of San Juan to the Fraser River run only with the tide; they move from 7 to 10 miles in 24 hours, and usually consume from 5 to 7 days in running from the salmon banks at San Juan Island to Point Roberts. The rapidity of their movements depends upon the strength of the tide. If the run occurs when the tides are excessively strong the salmon make more rapid progress, or vice versa. A close season of 24 or 36 hours a week for the entire Sound might have little or no effect on the number of salmon that would reach the river. It is evident from the reports of the Canadian commissioner that the barrier of nets on the Fraser covers such a part of the length of that stream that a school of salmon does not travel the distance during 36 hours. It is asserted that a graduated close season of 36 hours a week, which shall be effective throughout American and British waters, will manifestly result in about 21 per cent of the salmon coming in from the ocean passing the barrier of traps and nets on Sound and river, and reaching the hatcheries and spawning grounds of the Fraser River.

The canners on the Sound propose to meet those of British Columbia in establishing such a close season, and in making it effective in both jurisdictions. To accomplish this, legislation must be enacted in Washington establishing a close season of 36 hours a week, to commence when salmon are first taken in American waters, and extending, say, 15 miles, the distance traveled by a school of fish in that length of time; at that point fishing to be prohibited for the next 15 miles for 36 hours, and so on. So likewise on the Fraser to the end of the fishing grounds. The end sought is that a school of salmon entering American waters be protected until it passes the last barrier of nets on the Fraser River.

In other words, should the State of Washington establish a close season in American waters, and no change be made in British Columbia, there would be no assurance that any greater number of salmon could ascend the Fraser than have ascended it in the last ten years, to wit, but one-tenth the number required to supply the existing hatcheries.

The canners on the Fraser do not seem to agree as to the effectiveness of this close season. Some of the Fraser cannery men agree that the closed season that has heretofore prevailed has been a failure; others contend that the report of their commissioner is at fault. The Sound canners, however, express the opinion that there will be no opposition to a law establishing a close season for the Fraser beginning at the Fraser banks at 6 p. m. on Saturday of each week and ending on Monday at 6 a. m., applying to the first 12 to 15 miles, and beginning at that point on the river at 6 a. m. Monday morning and extending for the next 36 hours to the next 15 miles, and further, prohibiting fishing above New Westminster, provided the Americans have a like graduated season in their waters.

The conference developed the fact that canners on both sides of the boundary realize that some effective plan to insure the escape of a larger number of fish is necessary to a perpetuation of the business;

that more hatcheries will be useless unless some effective plan for an extended close season shall be decided upon and carried out. The conference appointed committees to draft bills for legislative enactment to effect this purpose. These committees will take such action as is in their power and will report to a future conference at as early a date as is practicable.

For the first time since the controversy has been impending an earnest effort has been made among the canners themselves to bring about a solution of the difficulty. The controversy which brought about the recent conference has been growing for several years. The canners have made long and continuous efforts among themselves to bring about a settlement of the questions involved. From conversations with persons interested upon both sides of the boundary I am convinced that both parties in interest will do their best to bring about an agreement which will be satisfactory to all concerned.

L. Edwin Dudley, *Consul.*

Vancouver, British Columbia, *July 11, 1904.*

DISCOVERY OF MANIÇOBA RUBBER FORESTS IN BRAZIL.

(*From United States Consul Furniss, Bahia, Brazil.*)

During the past few months discovery has been made that there are in the interior of this State vast forests of trees from which can be produced a high grade of rubber known to the trade as "maniçoba." The area is said to be very large, but can not be defined, as the region has not been fully explored. The attention called to the first discovery has led to further exploration, with the result that from time to time comes notice of other sections where like trees occur in profusion.

The output of maniçoba rubber has rapidly increased during the last few years and bids fair to be so large an item in the exports of this district as to warrant specific report.

THE MANIÇOBA TREE.

The tree which furnishes the product from which maniçoba rubber is made is known in most sections as "mandioca brava," which means "wild mandioc." It is so named because of the marked resemblance of the young trees to the mandioc, which forms the most common crop of all sections. It in reality belongs to the same family, but, unlike the other, produces latex and seed. During prolonged droughts the people have dug up its roots and ground and prepared them as is mandioc, though with greater labor and less benefit, because of the smaller amount of nourishment contained in the finished product and the work necessary to wash out the greater amount of poison.

The specific name of the tree is *Jatropha elastica*, but it has recently also been called *Manihot glaziovii.* It belongs to the Euphorbiaceæ family. To this same family belongs *Symphonia elastica*, which produces the rubber of the Amazon region. *Jatropha elastica* is native to many parts of Brazil, and when planted will grow on the interior plains and highlands as well as close to the sea. It has been observed to grow from near the equator to the southern limits of Brazil, except in those sections which, because of their altitude, have frosts or rapid and marked changes in temperature. It is very susceptible to frost, being either killed or injured thereby when bananas and other tropical plants would be unhurt. In its wild state it has been known for some time in Ceará and Piauhý, and from those States has come the greater part of the maniçoba rubber of commerce, but it is now believed to exist in even greater abundance in Bahia. It is also cultivated in many sections, large plantations having been set out during the last few years in Sergipe, Bahia, and other States.

CULTIVATION OF THE MANIÇOBA.

The tree grows rapidly from either seeds or cuttings. In four or five years it will reach a height of from 20 to 50 feet and a circumference of from 12 to 50 inches, depending upon the soil and climatic conditions. It grows erect and branches some distance above the ground.

I have never seen the tree in flower, but am told that after it is 4 or 5 years old it produces numerous flowers, which are followed by nutlike fruits about the size of a large plum, each one containing four seeds. When the seeds have reached maturity the shells suddenly and forcibly break open, hurling the seeds to some distance. The seeds resemble weather-beaten cherry seeds in shape and color, though much larger, thicker, and harder. On account of their hardness they are not readily attacked by insects, resist water, and do not easily germinate. The seeds will average about 900 to the kilogram [2.2 pounds]. They can be bought here for about $1 a kilogram, and for much less if taken in quantities.

As has been stated, the tree is reproduced either by seeds or by cuttings taken from old trees. When the seeds are used it is considered best to plant them in beds, 2 or 3 inches apart. The proper time to plant is just before the rainy season. On account of the slowness with which the seeds germinate, many file two edges of the shells carefully until they are just cut through, thus permitting rapid entrance of moisture. The seeds are planted about an inch below the surface in a place exposed to the sun and are watered from time to time if necessary. They come up in from 3 to 6 weeks. Others soak seeds in water about a week and then plant them as described above, when they will come up in from 2 to 4 months. Year-old seeds are said to germinate best, and good seeds can be told by the rapidity with which they sink in water. When planted in the ground in the ordinary way they sometimes do not come up until the following year.

As soon as the plants are a few inches high, and while the rains are yet on, they should be transplanted about 10 feet apart.

When reproduction by cuttings is desired, branches are taken from old trees and stuck in the ground to the depth of 2 or 3 feet during the rainy season, when they soon take root.

Seedlings are said to be preferable, as they resist drought better. They produce latex later than cuttings, yet they are said to give more when the proper time comes and do not so readily die as a result of the extraction.

The best soil in which to plant is a question not yet settled. In the wild state the tree seems to flourish best on sandy soil mixed with clay, the clay aiding in retaining moisture. It also occurs in quantities on hard clay soils and on sandy soils which seem unfit for any other form of vegetation. I have seen in this State planted trees growing luxuriously in the very sandy soil within sound of the sea. In some places in the State of Sergipe the tree grows well on the heavy black soils thought to be so essential to sugar-cane culture. In Ceará, in a region which has periodic droughts of great duration, it is said to grow wild, forming forests on the sides of hills the soil of which is clay containing reddish pebbles called "iron stones." From what I have seen I am inclined to believe that it will prosper, under proper climatic conditions, in any soil which will retain moisture, though doubtless the better the soil the stronger the trees.

The plants once up do not seem to demand much attention; at any rate they seldom get it. Some argue, particularly in Ceará, that underbrush is beneficial, retaining the moisture and protecting the trees, while others claim that the soil should be cultivated to produce the best results. It is my opinion that cultivation is desirable. The best trees I have seen have been in the open and had been cultivated.

MILK PRODUCTION.

Trees will produce milk after the first year or two, but it is thought best not to commence extraction before they are 4 or 5 years old; otherwise they are less capable of resisting drought and perish more easily. The latex seems to flow more freely during and immediately after the rainy season, but produces then a smaller percentage of rubber and coagulates less rapidly, requiring from 4 to 6 hours, which, because of the future treatment, is frequently a help rather than a detriment. During the dry season the flow of the latex is less. It then comes out drop by drop, contains a larger percentage of rubber, and frequently coagulates so rapidly as soon to close the orifice from which it is flowing. The temperature, likewise, seems to modify the flow, it being interrupted during the cold weather and augmented during the hot weather. In places constantly hot and humid there seems to be no interruption in the production of milk.

EXTRACTING AND COLLECTING THE LATEX.

The manner of extracting, collecting, and preparing the latex varies in different sections. In some places serpentine incisions are made around the trunk of the tree; in other places a large horizontal chip is taken from the bark and wood, and in still other places either a slightly oblique or a V-shaped incision is made. The first method enables a larger and quicker collection of the milk, but tends to kill the tree. The second method exposes the tree to the destructive action of ants. The other two methods are the best, with a preference for the V-shaped incision, as therewith a greater number of lactiferous ducts are cut with the least injury to the tree.

If either the V-shaped or the oblique incision is made, it is customary to commence at the height a man can reach and make them from 2 to 3 inches in length. Care should be taken not to cut through the bark to the wood. Two or three of these incisions, the number varying with the circumference of the tree, may be made at intervals on a line with each other. On the following days like incisions may be made a few inches below the others until the tree has been tapped to within a foot or two of the ground. The tree should then rest for a couple of months, when the operation may be recommenced, new incisions being made parallel to the old ones.

The amount of rubber which may be extracted from each tree has been variously stated, but, depending as it does upon the age of the tree and the different conditions which affect its nourishment, it can not help varying greatly. It was estimated that under good conditions, with the tapping done carefully at the best time, the average yield of a wild tree would be somewhat over 3 Troy ounces, while experiments made in Sergipe show that planted trees partially cared for and properly tapped will yield a considerably greater quantity.

When it is remembered that about 676 trees can be planted to an acre, the product per acre, taking the average given, would be 676 kilos [1,490 pounds], which, at the present price of the best quality (and if proper care is used there should be no other), would be worth $1,352. The value of the yield of plantations nearer the market or with better transportation facilities would be even greater. If the trees are planted on good ground, other light crops can be grown between them, increasing the revenue.

The roots give the greatest quantity of milk, but it is not thought desirable to extract it there because the position is not so well adapted to its proper collection, the ascent and descent of the sap is interfered with more markedly, and, the roots being exposed to the sun, the closing of the cut ends of the lactiferous ducts by coagulation is more rapid.

QUALITY OF MANIÇOBA RUBBER.

The best rubber which has come to this market has been prepared by an American who has acquired considerable property in the heart of the newly discovered region. His rubber has been prepared by keeping the milk liquid until he was able to fill up pans, then letting it coagulate, immediately thereafter submitting it to pressure between boards and subsequently washing and drying it on several days in succession. As a result he produces slabs one-fourth by 10 by 20 inches, of a beautiful amber color, with agreeable odor and wonderful elasticity. His rubber has brought the best price offered in the market and has been classed in New York and Liverpool as equal to first-quality Para rubber. He informs me that he is making active preparation to go into the business on a more extensive scale by cleaning up the lands where the maniçoba trees occur wild and planting in places where it does not now exist.

INTRODUCTION OF THE MANIÇOBA TREE INTO THE UNITED STATES.

From my investigation I am convinced that the culture of the maniçoba could be most advantageously introduced into the south of the United States, and particularly into Porto Rico and the Philippines.

OPPORTUNITIES FOR RUBBER PRODUCTION IN BAHIA.

Besides the large areas in which maniçoba trees occur wild in the State of Bahia, there are vast areas suited to their culture. The larger portion of the wild trees are on State lands, which can be acquired either outright by purchase or by lease granting privilege of rubber extraction, requiring a certain number of new trees to be planted each year, and making provision for official inspection, etc.

Recently about all of the productive State lands so far discovered have been leased, but this does not prevent some one other than the lessee from purchasing the land at any time, thus summarily terminating the lease. For this reason I would advise only purchase of the land outright—especially since the land can be bought at a very reasonable figure.

EXPORTS OF BAHIA RUBBER.

The following table shows the amount and value of Bahia rubber exported since 1901:

Exports of Bahia rubber, 1901–1904.

Country.	1901.		1902.		1903.		First quarter of 1904.	
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
England	25,076	$6,875.42	36,164	$9,468.28	207,282	$37,299.84	43,327	$7,562.40
France	23,705	6,479.64	36,967	9,476.92	50,736	8,276.88	148	32.16
Germany	26,004	7,701.96	50,004	13,081.20	96,197	16,542.72	8,826	1,540.56
United States	41,364	11,908.65	139,141	36,309.00	400,690	76,820.88	233,405	40,739.96
Belgium					1,210	173.76	....	....
Total	116,149	32,965.67	262,276	68,335.40	756,115	139,114.08	285,706	49,875.08

The values given in the above table are based on the official value decreed by the State custom-house, on which the export tax is collected. The director of the custom-house informs me that the value given is about one-third of the true value of the product, and this seems to be the case if one may judge from the declared value of the rubber which went to the United States.

The following table, compiled from consular invoices, shows the rubber exported from Bahia to the United States since 1901:

Exports of rubber from Bahia to the United States, 1901–1904.

Year.	Maniçoba.		Mangabeira.	
	Pounds.	Value.	Pounds.	Value.
1901	107,604	$48,029	168,190	$53,104
1902	229,744	104,730	201,502	74,291
1903	607,218	340,693	405,291	161,170
1904 (6 months)	470,065	380,337	254,925	121,092

The discrepancy between this table and that taken from State custom-house records is due to the fact that much rubber originating in neighboring States is exported from Bahia, coming here in transit. In 1903 there came to Bahia, in transit for export, from Minas, 190,034 pounds; from Piauhý, 999,167 pounds; from Pernambuco, 686 pounds; from Sergipe, 21,492 pounds; total transit rubber, 1,211,379 pounds.

H. W. Furniss, *Consul.*

Bahia, Brazil, *June 28, 1904.*

AMERICAN STATIONERY NOVELTIES IN ENGLAND.

(From United States Consul Halstead, Birmingham, England.)

The stiff-backed notebook very generally used in the United States by stenographers who take notes where a desk is not available does not seem to be on sale in England, even the American typewriter companies not having it unless specially ordered. The ordinary stationery establishment would probably not even know of it, and a typewriter agent whom I asked about it said that they had very little call for it. Of course there is very little call for an article which has not been introduced to the public, and properly introduced.

Not only this, but dozens of other American stationery notions would have a large sale in England if efficient measures to introduce them were adopted; if, for instance, some of the methods of the American fountain-pen manufacturers were followed, the selling plans of one of these manufacturers being especially suitable to this market. I refer to articles whose novelty or convenience makes them suitable for sale by an ordinary stationer, whether useful in offices or for private correspondence; such articles—most of them unknown here—as are advertised in all the leading American magazines and periodicals.

By calling attention to the possibilities of business here in our stationery novelties, I hope that I will not inspire the manufacturers of these novelties with a desire to do business here by correspondence, for there is nothing more absurd than to suppose that articles can be sold beyond our boundaries by a casual and incidental effort such as we would not depend on at home.

A year or so ago, when I mentioned in a report that a tailor for the "rough and ready" trade who had been to the United States told me that the American type of overall was unknown here, and that there might be a sale for them, dozens of overall manufacturers sent me samples and wrote asking for the names of people who would act as agents, evidently laboring under the impression that the workmen of Birmingham were so anxious to secure American overalls that all that was necessary was to show the samples and take orders. As a matter of fact, there was a possible sale for them only by the same hard and systematic work by which large orders for the same articles are obtained in the United States.

Marshal Halstead, *Consul.*

Birmingham, England, *July 1, 1904.*

SERIOUS DROUGHT IN GERMANY.

(*From United States Consul-General Mason, Berlin, Germany.*)

Germany is now nearing the acute stage of a drought which has already inflicted very serious injury not only to the agricultural but to the commercial and industrial interests of the country. Germany is for the most part a level country covered with a vast network of canals, canalized water courses, and navigable rivers, along which many thousands of boats carry a large proportion of all coarse, heavy freights, such as coal, ores, metals, lumber, mineral fertilizers, etc., that are produced and consumed in the country. None of these materials will stand for more than a very short distance the high freight rates imposed by the State railways, so that even a temporary embargo of internal water transportation paralyzes immediately many important lines of industry.

The lack of ordinary rainfall was noticeable in certain districts as early as the last fortnight in May, which ended with several days of exceptional heat for that part of the season. The first half of June was relatively cool, with scant local rains in certain localities, but an aggregate rainfall far below the average for the whole Empire. Then ensued four weeks of unbroken drought, accompanied by spells of intense heat lasting several days, during which even in Berlin the temperature rose to 90°, and on one day to 94° F. in the shade on the north side of high buildings.

The wide sandy plain of Brandenburg has been dried out under the heat until the soil to the depth of a foot is like dust, and pastures and meadows are as brown as in October.

The effects thus far recorded are that the first crop of hay was light, but was cured and garnered in excellent condition. The stubble is still brown and lifeless; unless rain comes abundantly and soon there will be little autumn pasture and no second crop of hay throughout most of Germany.

Winter wheat has been injured to some extent, but the exact measure of damage can not be known until thrashing has been finished. Spring rye and wheat are ripening prematurely with very short straw and lightly filled heads. The net effect on the cereal crops of the Empire can hardly fail to be serious, though such grain as is harvested will be sound, hard, and of good quality.

Sugar beets, which have a long, deep penetrating root and can stand drought better than most crops, still look well and cause no serious apprehension. Drought, within reasonable limits, may reduce the bulk and cause a great decrease in weight per acre of sugar beets, but this deficit is usually made up by the increased sweetness of the juice, an advantage rather than the contrary to sugar manufacturers, but a loss to farmers, most of whom sell their crop by weight to the factories.

The most serious apprehensions are now felt for the potatoes, of which Germany raised in 1901 nearly 50,000,000 tons, and which constitute throughout a large portion of this country the staple food crop of the people. Not only this, but the manufacture of alcohol, starch, potato flour, dextrin, and a variety of special food products from potatoes is an important branch of German industry. Throughout Silesia and a large part of central Germany the early potato crop has been arrested in growth by the drought, so that the supply is thus far meager and of poor quality. The late and far more important crop—potatoes that are to be harvested in October and November—are still in blossom and may be saved by rains that may yet come before the end of July. Broadly speaking, the meaning of the present situation is that the aggregate food value of the crops of 1904 in Germany will probably be far below that of an average normal year.

The actual money loss from a visitation of this kind reaches out into so many channels that its aggregate amount is difficult to estimate. First comes the reduction by the river transportation companies of the weight of freight that their boats could carry over the shallowing water courses, part of which they sought to recover by advancing the rates on such merchandise as could be taken. Most boats, which at this season are busy bringing coal to the cities, are either laid up or, if running at all, carry half cargoes or less. The effects of the drought will be felt in the fuel markets next winter, which have already begun to advance in anticipation of a future deficit. Mills on many streams have stopped, or can only run a few hours each day, so that rural districts dependent upon local milling facilities for flour and ground feed are put to more or less serious inconvenience.

Finally, there is the loss of water power for generating electricity and driving factories, and what is even more serious, the paralysis of the wood and lumber traffic, more dependent than perhaps any other branch of trade on internal water transportation, the stoppage of which during the summer months can only be compensated by a decreased consumption or increased importations. There is a large annual import of rafted logs and timber from Russia which is now seriously compromised, many of the streams being so low that the rafts are stranded in sand and mud with no prospect of escape until the autumn rains release them, too late to reach the accustomed markets before the break up of another winter.

FRANK H. MASON, *Consul-General.*

BERLIN, GERMANY, *July 19, 1904.*

TENDERS FOR RAILWAY SUPPLIES IN PORTUGAL.

(*From United States Consul Thieriot, Lisbon, Portugal.*)

For the benefit of those desirous of making bids for supplying material for the railway systems of Portugal, I beg to offer the following information and suggestions:

The lines of railway at present open for traffic have a total length of 1,553 miles, and are operated by four companies. Extensions of the several systems are in progress.

Tenders are not, as a rule, publicly invited for rails, engines, and rolling stock, but when these are required the company interested invites the firms on its list to send tenders for what it needs.

The first step, then, for a firm desirous of being invited to tender is to get its name and address registered in the office of the company. This should be done by a formal application, setting forth the capabilities of the firm or individual desirous of an opportunity to tender, the nature of the material which can be furnished, and such other information as seems desirable.

The French language is well understood in all the chief offices, and while recommending the use of that language, I am not prepared to say that English would not do almost as well.

In furnishing calculations of length and weight the metric system should be used.

Having lately had occasion to make an inquiry in regard to steel rails on behalf of a correspondent, I was asked whether he had an agent in this country, and I gathered from the manner of the official from whom I made the inquiry that it would be of advantage to anyone in the United States tendering to have an agent at hand in this country.

The titles and addresses of the four companies are as follows, and strict adherence to them is urged to insure correct delivery, which would be rendered more certain by registering the application: (1) O Presidente do Concelho d'Administração da Companhia Real dos Caminhos de Ferro, Rocio, Lisbon, Portugal; (2) Marquez de Gouveia, Director da Companhia dos Caminhos de Ferro da Beira Alta, 1 Rua Victor Cordon, Lisbon, Portugal; (3) O Presidente do Concelho d'Administração dos Caminhos de Ferro do Estado, Ministerio das Obras Publicas, Lisbon, Portugal; (4) O Presidente do Concelho d'Administração da Companhia Nacional dos Caminhos de Ferro, 88 Rua S. Nicolau, Lisbon, Portugal.

There is another company working a narrow-gauge railway, 40 miles long, between Porto and Povoa de Varsim, etc., whose address in full is O Presidente do Concelho da Companhia do Porto à Povoa e Famalição, Boa Vista, Porto, Portugal.

J. H. THIERIOT, *Consul.*

LISBON, PORTUGAL, *July 4, 1904.*

GERMAN COTTON TRADE NOTES.

(*From United States Consul Warner, Leipzig, Germany.*)

During the first four months of 1902, 1903, and 1904 the total imports of raw cotton into Germany were 137,681, 166,857, and 174,520 metric tons, respectively. Of these quantities, 109,725, 126,090, and 130,088 metric tons, respectively, were imported from the United States, while 14,605, 26,310, and 28,773 metric tons were from India, and 13,260, 13,105, and 14,131 metric tons from Egypt. The relative increase of Indian raw cotton is more considerable than that of cotton received from the United States. A large quantity of the Egyptian cotton is used by the mills which are located in and about the city of Leipzig.

Although comparatively never of any great importance, the imports of raw cotton from China to Germany so far this year are considerably less than they were in 1903. On the other hand, the exports of calicoes and Canton flannels to China have been larger, in fact, double what they were during the same period in either 1902 or 1903. It appears as if German cotton mills were supplying the Chinese markets with a part of the kinds of goods which up to the present time have been imported from the United States.

The improvements in the transportation facilities between German ports and those of South American countries have greatly benefited the trade relations. In 1904 there will perhaps be larger exports from Germany to South American countries than ever before. The healthy business conditions prevailing in Argentina, due, in a measure, to the record-breaking shipments of certain raw products to Germany, have caused Argentine merchants to buy nearly all kinds of German cotton goods, especially staple articles, in larger quantities than heretofore.

Brazil has not bought as extensively as in 1903. The large number of cotton mills established in that country of recent years is doubtless, to some extent, responsible for this. While some sections of Brazil are said to be well adapted to cotton raising, the farmers appear to be rather disposed to grow coffee. At one time Brazil gave promise of exporting large quantities of raw cotton to Germany, but for several years past the shipments have been steadily falling off. Chile has been buying German cotton goods in about the same quantities as in 1903. If there is any change to be noted it is a small increase. Peru has also been making larger purchases. Venezuela is buying larger quantities of German cotton goods than ever before. So far this year several million yards have been imported. The other countries, without an exception, seem to have been making increased purchases.

BRAINARD H. WARNER, Jr., *Consul.*

LEIPZIG, GERMANY, *June 14, 1904.*

PETROLEUM IN CANADA.

(*From United States Consul-General Holloway, Halifax, Nova Scotia.*)

The bounty of 1½ cents a gallon on crude oil recently granted by the Dominion government has stimulated the development of oil territory, and the business men of the maritime provinces are congratulating each other over the development of the New Brunswick oil field. A New Brunswick petroleum company has found oil in paying quantities in a district extending many square miles, over an area as extensive as the petroleum oil field of Ontario. The company has 34 wells now producing at the rate of 50 barrels of oil daily. This is much in excess of the product of the Ontario wells and the oil is better. The company has emerged from the experimental stage and is now busy multiplying its wells (11 more wells will soon be producing) and erecting storage tanks. The storage tanks are being built on a strip of land between Memramcook station and the river. They will form the nucleus of the refinery to which the oil will be brought by gravitation through pipe lines; and crude, refined, and other oils and by-products will be dispatched by rail and water.

The natural gas issuing from the wells in operation will be used primarily to operate the company's plant, but as the supply increases with the number of wells the gas will be piped to consumers.

The operations of the New Brunswick company resemble those in the natural gas fields of England, where petroleum oil has been struck and illuminating, heating, and cooking gas is being supplied to 70 to 80 houses and to the street lamps, and preparations are being made to supply neighboring gas works.

Dr. Boverton Redwood classifies the New Brunswick oil fields as among the promising fields of the world.

W. R. HOLLOWAY, *Consul-General.*

HALIFAX, NOVA SCOTIA, *July 7, 1904.*

GERMAN EXPORT TRADE.

(*From United States Consul Warner, Leipzig, Germany.*)

Small arms for China.—During the first five months of 1904 over 100 metric tons of small arms for military purposes have been shipped to China. From January to June in 1902 and 1903, respectively, no such supplies were sent.

Typewriters and adding machines.—The exports of typewriters and adding machines during the year 1904 will perhaps equal the imports of such machines from the United States. (In 1903, $837,250 worth of such machines were imported from the United States into Germany, and the indications are that about the same amount will be imported in 1904.) German merchants find Austria-Hungary, Russia, France, and Switzerland good markets for typewriters. Several months ago the writer was informed that there was a good market in Russia for second-hand typewriters.

Indigo.—The Far East is found to be a good purchaser of indigo which is being manufactured in this country. China is buying in much larger quantities than ever before, as is Japan and Turkey in Asia. The exports to Austria-Hungary, Egypt, the Netherlands, and Italy are also increasing.

Leipzig textiles for Japan.—Although the export of woolen goods to Russia has fallen off considerably for several months past, the orders which have been received from Japan have never been so large. Indeed, they are of such proportions as to keep the woolen mills of this vicinity busy for some months to come. The goods being exported are such as are suitable for making winter uniforms for the army. The shipments of woolen yarns and combed wool during the first four months of 1904 have been larger than they were in the same period of either 1902 or 1903.

Bicycles.—The export of bicycles has been steadily increasing. During the year 1902 the value of the exports was $3,451,238. The amount for 1903 was even larger, and the indications are that 1904 will show a still further increase. Germany's principal markets for bicycles, in the order of their importance, are Denmark, the Netherlands, Austria-Hungary, and Russia. The shipments to Japan during the first four months of 1904 were small, comparatively speaking, being only 15 tons, but large enough to show that another market for German bicycles is in prospect.

Sewing machines.—Sewing machines are being exported in larger quantities than ever before. Russia, Italy, Great Britain, France, Austria-Hungary, and the Netherlands are the most important markets for German sewing machines. The shipments to Asiatic and South American countries are also increasing. Germany exports more sewing machines than the United States, the country where they were first manufactured.

BRAINARD H. WARNER, JR., *Consul.*

LEIPZIG, GERMANY, *June 11, 1904.*

NEW ELECTRIC AUTOMOBILE.

(*From United States Consul Haynes, Rouen, France.*)

The following appeared this morning in a Parisian daily:

The trials which were made yesterday morning at Longchamps with a new electric carriage constructed by the Electromotion Company, whose headquarters are in the Avenue Montaigne, give every promise of creating a revolution in the automobile world.

Like all the firms which are interested in the construction of electric carriages, the Société Electromotion has, up to the present, employed for the transmission of power to the wheels motors of high speed, with 800 to 1,000 revolutions a minute, these acting with the intermediary of chains and pinions or pinions and gearing. This method has been adopted up till now in order to avoid the weight of the electric motors. The drawbacks to this system are as follows: The pinions, chains, and gearing absorb no small amount of force, this loss beginning at 25 per cent and increasing with wear. The battery also progressively weakens. Then the gearing, pinions, or chains have to be changed periodically, causing expense and the laying up of the carriage for repairs. The use of pinions, chains, and gearing, however carefully the vehicle may have been constructed, always produces a grinding noise, which increases with wear, and this grinding detracts from the charm of electric carriage riding. Again, the overheating of the motors limits their action. Thus in existing systems high-power batteries, which render the carriage heavy, are absolutely necessary.

The electromotion company's new method of transmission has been tried over and over again, but this is the first time that the inventors' dreams have been realized, and so satisfied is the company with the perfected invention that it has obtained patent rights for all countries. The system is simple. The motors and the wheels are one and the same thing, working together, running at the same speed and without any kind of intermediary. The "live axles" can be placed in front or behind. They receive their motive power direct from the accumulators, and the chains, pinions, and gearings are things of the past. A carriage with live axles can travel 20 to 30 per cent farther than the ordinary carriage, for the reason that it is relieved from lost energy and has no impediments. In a word, weight is reduced, power increased, heating diminished, and absolute silence obtained, while wear and tear are brought to a minimum.

This invention can be applied to any kind of vehicle, although at present the private carriage is receiving all attention. In the trial the new system, although primitively mounted, worked admirably at five speeds, varying between 4½ and 19 miles an hour, and with perfect silence. There was no jar in starting or in changing speed. The general appearance of the carriage is improved, as the motor being removed from under the vehicle the body can be built low. It may be said that the wheels on which the motors are placed look clumsy compared with those on the present-day carriages. This is simply a matter of first sight.

THORNWELL HAYNES, *Consul.*

ROUEN, FRANCE, *June 25, 1904.*

INTERNATIONAL TRADE OPPORTUNITIES.

(*From United States Consul Warner, Leipzig, Germany.*)

Cold-storage apparatus for St. Petersburg.—In order to increase the Russian exports of butter, a movement is now on foot to construct cold-storage warehouses at St. Petersburg. It is probable that the machinery which is necessary in connection therewith will have to be imported. Detailed information may be obtained by addressing the office of the imperial ministry of railroads, St. Petersburg, Russia.

Iron works in Italy.—The Ferriere Italiane Cie., of Rome, Italy, intends to erect a large iron and steel works at Torre Annunziata, near Naples. A large quantity of the materials necessary for the proper equipment of this plant will, without doubt, be purchased in foreign markets.

Uniform cloth and officials' caps for South Africa.—On September 15, 1904, the term for submitting bids upon a three years' contract for furnishing the railway department of the Cape government with cloth for uniforms and caps for the officials will expire. All inquiries regarding these contracts should be addressed, General Agent of the Cape Colony, 100 Victoria street, London, S. W., England.

Cigarette machinery for Japan.—The Berlin chamber of commerce informs German manufacturers of cigarette machinery that it has gathered certain confidential information about the possibilities of importing such machinery into Japan. The Baltimore and other American concerns which have sold cigarette machines in Japan should still bear that country in mind as a growing market.

Electric cranes and locomotives for England.—Parties interested are invited to submit tenders upon three 3-ton electric cranes and two electric locomotives which are intended for the use of the London Electric Works at Greenwich. Detailed information may be obtained at the County Hall, Spring Gardens, London, S. W., England, upon depositing the sum of £2 [$9.73].

Electric railways in Italy.—The Electric Street Railway Company of Genoa has decided to extend its present system of lines and to purchase a considerable quantity of rolling stock—electric motor cars, for the most part.

It is proposed to build an electric railroad between Aquila and Teramo, cities which are located in the Abruzzi e Molise Compartimento, Italy, about 35 miles apart. Detailed information about this road may be obtained from Cav. Camerini, sindaco (mayor) of Aquila.

Electric power plant in South Africa.—The city council of Kalk Bay Station, Cape Colony, has been empowered to issue bonds for such amount as it may need to erect a municipal electric light and power plant.

Iron bridge in Spain.—A movement is now on foot to build an iron bridge over the Urumea River at San Sebastian, Spain. Particulars may be obtained from José Eugenio Ribera, San Sebastian, the engineer who is in charge of preparing the plans and specifications.

Hospital supplies for Servia.—The Servian Government is contemplating issuing $3,000,000 worth of bonds in order to purchase a quantity of hospital supplies for its war department and to fit out its Red Cross service in a thoroughly modern way.

Electric street railway in Spain.—The Sociedad Tranvias de Saragossa, Spain, has requested the city council to grant it a concession to make several extensions of its present system of tracks. Rumor has it that the concession will be granted, in which case the street railway company will have to make purchases of steel rails and additional rolling stock.

Harbor improvements in Spain.—The harbor authorities of Motril, a place on the southern coast of Spain, in the Province of Granada, are contemplating making extensive improvements in their harbor.

Ceylon needs cocoanut-oil presses.—Word has been received that on the island of Ceylon there is a good market for improved oil presses and other machinery used in connection with the manufacture of cocoanut oil.

Switzerland wants electric street railway rolling stock.—The Schaffhausen-Schleitheim Electric Street Railway of Schaffhausen, Switzerland, is reported to be in the market as a purchaser of rolling stock.

Electric plant at Christiania to be enlarged.—It having been practically decided to enlarge its capacity, the management of the electric light and power plant of Christiania, Norway, will soon have to purchase electric machinery and cables for transmitting electric currents.

Waterworks in Argentina.—The city authorities of La Plata, Ensenada, and Tolosa have decided to equip their respective municipalities with waterworks. The work has been intrusted to Miguel A. Ponce, a civil engineer of Buenos Aires (Oficina de Obras de Salubridad), with whom it might be well for those to correspond who have water pipes, pumps, and other waterworks machinery to sell.

Market for canned vegetables.—Although the Italian import duty upon most canned goods is so high as to be almost prohibitive, canned vegetables are an exception. The indications are that quantities of American canned vegetables, especially peas and beans, could be imported into Italy in competition with those which are being received from Austria-Hungary.

Water system for Chile.—Up to October 1, 1904, the superintendent of public works of Santiago de Chile (from whom detailed information may be obtained) will receive tenders upon the building of a municipal system of waterworks.

Electric plants for Spain.—On August 4, 1904, the city authorities of Fuentes de Andalucia and Iznajar, respectively, will award contracts for the construction and twenty-year management of electric light and power plants. Electrical supply companies might find it of advantage to correspond with the successful bidders, whose names and addresses may be obtained from the municipal offices.

Waterworks for Austria.—The city council of Meran, Austria, has decided to accept the plans and specifications of municipal waterworks which have been prepared by Engineer Maurer. The cost of these improvements is estimated at $142,100.

New railway in India.—A franchise has been granted to the Great Indian Peninsula Railway Company, which has an office at 48 Copthall avenue, London, E. C., England, to build a standard-gauge railroad from Warora to Belapur, in the central provinces of British India. It is estimated that this road, which will be about 38 miles in length, will cost $1,036,098.

Electric equipment for Belgian stations.—The royal Belgian ministry of railroads will award contracts for wiring and equipping for electric lighting the Quaregnon-Central, Jemappe, Warquignies, and Flenu-Central railroad stations. Further information regarding these contracts may be obtained from the Cahier des Charges, No. 534, Musée Commercial, Rue des Augustins 15, Brussels, Belgium.

Prize competition for architects.—Up to Wednesday, November 30, 1904, the royal Danish ministry of public works at Copenhagen will receive plans for the restoration of the Christiansburg Castle, which was destroyed by fire in 1884. The Rigsdag, which has appropriated the sum of $1,608,000 for the purpose of restoration, has provided that the plans for the castle shall be open to competition. Cash prizes amounting in value to $3,484 will be awarded for the best six sets of plans, the prizes ranging from $1,072 to $268. Details of the competition may be obtained by sending $5.36 to the ministry of public works at Copenhagen, Denmark.

BRAINARD H. WARNER, Jr., *Consul.*

LEIPZIG, GERMANY, *July 21, 1904.*

AMERICAN MACHINERY IN BELGIUM.

(*From United States Consul McNally, Liege, Belgium.*)

As the genius of American inventors gives to the mechanical and industrial world machines representing saving of time and increased capacity, European manufacturers are either scanning the horizon of American creative power for the appearance of some device that will improve their product or producing capacity, or they are nervously apprehensive of the introduction of machinery that will outclass and relegate to the scrap heap the mechanical fruits of their own endeavors.

The dealers in machinery located within this consular district are highly appreciative of the American product, and advertise in their business signs, show cards, and letter heads the fact that they handle American machinery. The tendency to criticise the delicacy and complicated character of American-made machinery is rapidly giving way before the all-potent fact of its tried durability and producing capacity. Cumbersome and so-called simplified machinery of certain European manufacture, the merit of which was its strength and the ease with which it could be operated by the ordinary workman, is being gradually forced to the rear. With the increased producing power of American machines it is found to be less expensive to employ an expert mechanic to operate than to employ a mere care taker of a plodding machine, the production of which is scarcely sufficient in quantity and quality to pay for its introduction and the expense of operating.

Machinery employed in the manufacture of firearms and their various parts is up to date and unique in its operation. The construction of these small machines is simple but effective, and can be mastered by boys and girls without special mechanical education.

Within the past few months a representative of American machinery manufacturers has opened showrooms in the most conspicuous place in Liege. He handles various kinds of machinery and is the agent for many American dealers. That he is most energetic on behalf of his principals may be judged from the fact that he has applied to the exposition authorities for the whole of the space allotted to the United States at the forthcoming international exposition to be held at Liege in 1905.

American machinery, like other American products, has come to stay, and when our manufacturers are ready to meet their competitors in the matter of credit conditions, the markets of Europe will gladly receive their products.

James C. McNally, *Consul.*

Liege, Belgium, *July 11, 1904.*

ELECTRIC PLANTS IN FOREIGN COUNTRIES.

(*From United States Consul Warner, Leipzig, Germany.*)

The city council of East Retford, a place of over 10,000 inhabitants in Nottingham County, England, is contemplating the building of a municipal electric light and power plant.

The municipal council of Rochdale, a borough of about 75,000 inhabitants in Lancashire County, England, is planning to spend a sum which will exceed $200,000 in enlarging and improving its electric plant.

The municipal authorities of Barcellos, a small place on the Cavado River, about 25 miles north of Oporto, Portugal, are willing to grant a thirty-year concession to a company for the erection of an electric light and power plant. One of the stipulations which will be exacted of such a company will be that it furnish the municipality with 160 16-candlepower incandescent lights and 6 50-candlepower arc lights for the sum of 1,500 milreis [$1,620] per annum.

BRAINARD H. WARNER, JR., *Consul.*

LEIPZIG, GERMANY, *June 14, 1904.*

DIRECT TRADE WITH HUNGARY.

(*From United States Consular Agent La Guardia, Fiume, Hungary.*)

The exports from the United States to Hungary are steadily increasing, and those American exporters who still sell through a third country will do well to look up the Hungarian market and find direct connections. Merchandise imported through a third country loses its nationality. Statistics often classify these imports with those of continental origin. Moreover, as long as the Hungarian importer has to buy American manufactures from Germany, France, or other countries, he is likely to be furnished with imitations, or at least with domestic articles which he is made to think are "just as good." In this way it happens that good American articles frequently pave the way for inferior European goods.

American exporters will save time and money by shipping via Fiume. There are three lines running regularly from New York to Fiume, the Austro-American, the Mediterranean-New York, and the Cunard. Freight rates from New York to Fiume are as follows: agricultural implements and machines, $3.65 to $7.20 a ton, weight or measurement at ship's option; copper, $3.65 a ton; cotton, 25 cents a bale; clay, $2.43 a ton; general weight and measurement goods, $4.26 a ton; general machines, boxed, $4.86 a ton; cotton-seed and lubricating oils, 75 to 85 cents a barrel; sulphate of copper, $3.65 a ton; phosphates, $3.53 a ton; provisions (lard, bacon, canned goods, etc.), $426 a ton; wax, $3.65 a ton. Inland railway rates from this port to the interior will be cheerfully furnished by this agency upon application.

F. LA GUARDIA, *Consular Agent.*

FIUME, HUNGARY, *June 21, 1904.*

PREVENTING HYDROPHOBIA BY VACCINATION.

(*From United States Consul-General Guenther, Frankfort, Germany.*)

Pasteur's vaccination method for the prevention of hydrophobia in people bitten by mad dogs is employed at the institute for infectious diseases at Berlin. The "Cultus" ministry has just published a statement with reference to the cases of persons bitten by mad dogs which have come to the knowledge of the authorities during 1903, and which permit a judgment on the merits of such vaccination based upon authentic facts.

In the year 1903, 307 persons were bitten by 194 mad dogs or dogs suspected of madness; in 140 of these dogs hydrophobia was afterward proved beyond a doubt, while 13 were found to be healthy; the rest could not be examined. The 307 persons lived in eight different provinces—226 of them in eastern Prussia, western East Prussia, and Silesia, which are close to Russia. Thus Russia is again shown to be the breeding place of this plague. Of those bitten, 281 proceeded to the institute for infectious diseases and were vaccinated. Four of them died of hydrophobia and one recovered after a slight attack. Deaths took place on the thirty-eighth, fifty-sixth, one hundred and tenth, and one hundred and thirty-fifth day, respectively, after the bite.

Vaccination has not proved an absolutely certain remedy, even when applied right after the bite. The statistics show, however, that of 281 persons vaccinated only 4 died, that is, 1½ per cent; while of those not vaccinated but treated medically 6 per cent died, and of those neither vaccinated nor treated 11 per cent died.

"In view of these figures," the statement proceeds, "it is earnestly to be recommended that all persons having the misfortune to be bitten by dogs either mad or suspected of madness at once submit to vaccination. The value of such vaccination is being more and more recognized. During the last six years the percentages of persons bitten who submitted to vaccination were 29, 80, 82, 78, 90, and 92, respectively, and it is to be hoped that in the future every bitten person will avail oneself of it."

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *July 7, 1904.*

ZÜRICH INTERNATIONAL COTTON CONGRESS.

(*From United States Consul-General Peters, St. Gall, Switzerland.*)

An interesting event in the industrial movement toward concentration was the international cotton congress in Zürich. The idea of the congress was started in England, which, generally speaking, maintains a repellant attitude toward other countries in matters of this kind. But the English giant industry, with its 47,000,000 spindles, which is dependent on a constant supply of raw material, was the first and the hardest hit by the prices dictated by American cotton factors. She has therefore found herself compelled to undertake operations in which she would gladly see the Continental cotton industry participate.

On the 31st of May there were assembled in Zürich, at the instance of England, representatives of the cotton industry from nine different States for the purpose of considering how to improve the conditions of the cotton market. This step shows how much, in spite of opposition of individuals, the feeling of a common interest among the different countries has spread. Whether, however, the congress will have a practical result is by no means sure, as the means whereby such a result could be brought about are extraordinarily difficult to put into operation.

The cotton industry is subject to a number of adverse conditions. It is the most mobile of all the great industries, and can be more easily developed than almost any other, wherever moderate wage rates prevail and freight conditions are not too poor. Consequently, in most countries, an independent cotton manufacture has been developed by protection, and the world's manufacturing capacity has become so great in proportion to its production of raw cotton that bad harvests bring about a cotton famine. From this has arisen a wild form of speculation, and an unsound forcing up of prices in the United States, which has been most unfavorable to the manufacturers of raw cotton.

The international congress of the cotton industrial world will now take measures to guard against such disadvantages. The means to attain such an end appeared to the congress to be a temporary reduction of the manufacture and an increase in the culture of cotton; in other words, smaller consumption and larger production, with the establishing of factories and reserve supplies of raw cotton. It is certainly to be feared that this reduction in the manufacture of cotton will not be helped by the cotton planter. It is a fact that the extension of cotton planting in some parts of the world has already been carried out without, as yet, producing any notable results. The development of cotton planting in the East Indies has not resulted in any great exportation from those countries, for the East Indies had, between 1900 and 1903 alone, increased its spindles from 700,000 to over 5,000,000, and always consumes more raw cotton than it produces.

Still, the want of raw material in the cotton industry will strongly favor an increase in cotton planting, for in the end men will get for themselves the material they stand most in need of.

At the Zürich congress it was decided that better reports on the market conditions were necessary, and, besides, the formation of an association of buyers of raw cotton and regulations against payment on delivery at some future date (Termin Handel). Better market reports than those now existing through the press and the private stock exchange reports to interested circles are certainly much to be desired, and should be very useful.

No binding resolution concerning the attitude to be taken with regard to speculation has yet been adopted by the congress. Further proposals in this connection are declared to be necessary. In the light of the experiences which the cotton industry has passed through, it is a question if the ruling out (if this were possible) of the speculative trade would improve matters, or if, through this pressure, the actual execution of which must be very doubtful, a still wilder and more dangerous set of conditions would not be called into existence. Arbitrary interference from outside will certainly not have such a beneficial effect as a common-sense adaptation of production and consumption, good and reliable market reports, and the attempt to create capable organizations controlling large capital and commercial ability.

The five days' conference at the first international congress of the cotton industrial world, which represents, perhaps, 80,000,000 spindles, has in general exercised a favorable influence on those who took part in it. They believe that at this first congress they have set foot on the way toward mutual understanding, and hope to have found a position whence they can introduce order and ameliorate the present conditions of the industry endangered by speculation.

In spite of all this, we must not allow ourselves to be led away by illusions in this direction, for everything in the world is subject to change, and the manufacturers' ideal—to get stable prices—will remain absolutely unattainable.

Great efforts are being made to cultivate cotton in Asia Minor, where, by means of German capital, the Anatolian railways are being used by Germany to open up countries which were formerly almost closed and to penetrate into the heart of Arabia.

In the German and Belgian colonies of Africa also active measures are being taken for the cultivation of cotton, and the enormous plateau of Abyssinia, with its fruitful climate and its own great demand for cotton cloth, will be one of the countries of the future for cotton planting. King Menelik and his Minister Ilg are pursuing this idea consistently, and once the railway communication already begun is established to the interior of the thickly populated country and the coast is connected with the highlands, Abyssinia will, in all probability, develop into an exporter of raw cotton.

THOMAS WILLING PETERS, *Consul-General.*

ST. GALL, SWITZERLAND, *July 8, 1904.*

BREMEN-UNITED STATES TRADE IN 1903.

(From United States Consul Diederich, Bremen, Germany.)

The Statistical Yearbook of the Free State of Bremen, Germany, has been published. In order to make the Yearbook statistics understood correctly, it must be stated that, Bremen being a seaport, largely engaged as a forwarding agent, only 49.21 per cent of the imports and 47.02 per cent of the exports were made for the account of Bremen business houses, so that 50.79 per cent of the imports and nearly 53 per cent of the exports represent transit goods only.

The values of the total imports and exports of Bremen during the last two years were as follows:

Value of imports and exports of Bremen, 1902 and 1903.

Year.	Imports.	Exports.	Total.
1902	$257,754,000	$245,378,000	$503,132,000
1903	288,622,000	275,128,000	563,750,000

Among the countries to which Bremen shipped its goods the German Empire naturally takes the leading place, but of foreign countries the United States holds first place. In imports into Bremen the United States is even ahead of the German Empire.

The following statement shows the value of the imports and exports of Bremen into and from the German Empire and the United States during the calendar years 1902 and 1903:

Trade of Bremen with United States and German Empire, 1902 and 1903.

Year.	Imports from—			Exports to—		
	German Empire.	United States.	Excess of imports from the United States.	German Empire.	United States.	Excess of exports to the German Empire.
1902	$82,030,000	$93,720,000	$11,742,000	$137,802,000	$21,896,000	$115,906,000
1903	84,966,000	110,000,000	25,134,000	150,654,000	24,990,000	125,664,000

Of the $110,000,000 representing the value of the imports from the United States during the year 1903, articles for consumption amounted to $14,000,000, raw materials and half-manufactured fabrics to $94,000,000, and manufactured goods to $2,000,000.

Among the articles of consumption imported from the United States the most important are:

Food products imported into Bremen from the United States.

Article.	Value.	Article.	Value.
Oleomargarine	$112,132	Wheat flour	$522,413
Fresh fish	16,521	Maize	2,760,800
Salted and smoked fish	281,183	Tobacco	3,381,784
Meats	571,435	Fruit, fresh and dried	880,600
Rye	624,530	Lard	2,475,200
Wheat	1,253,097		

The United States is the only source of importation of smoked and salted fish. The import of this article doubled during 1903, and the import of fresh apples increased threefold compared with that of 1902. The import of maize in 1903 also showed a heavy increase, compared with that of the preceding year, but was not so large as in 1901 in quantity or value. The import of rye shows a decrease of about $250,000, and that of wheat a decrease of $900,000.

Of raw materials imported from the United States the following are the most important:

Raw materials imported into Bremen from the United States.

Articles.	Value.	Articles.	Value.
Drugs	$164,382	Metals	$926,862
Phosphate fertilizers	545,792	Oils, vegetable and animal	83,648
Furs	330,849	Petroleum and mineral oils	1,468,779
Lumber	696,287	Cotton	89,423,432

The imports of metals during 1903 amounted to about the same as in 1901, but showed a decrease of $952,000 compared with those of 1902, owing to heavy importations of copper during that year.

From the foregoing it will be seen that very few American manufactured goods ($2,000,000 worth) are imported into Bremen, which seems to be due partly to the high import duty and in a large measure to the method of bringing this class of merchandise before the public. People in Germany, as well as elsewhere, want to see what they are going to buy. Branches of American export houses, with ample stocks of the goods they want to sell, should be established in various parts of the country where a market for such goods is to be gained—and here I have in mind chiefly American harvest and other machinery, shoe ware, cotton fabrics, etc. By the establishment of such branches prompt delivery of the goods in most cases would be made possible, and the sales would undoubtedly be largely increased.

HENRY W. DIEDERICH, *Consul.*

BREMEN, GERMANY, *June 28, 1904.*

DIPLOMATIC AND CONSULAR SERVICE OF PANAMA.

(*From United States Consul-General Gudger, Panama, Panama.*)

OFFICES AND SALARIES.

The diplomatic and consular service of the Republic of Panama was established by act of the National Assembly passed April 18, 1904. The following is a list of these offices, with the salaries attached thereto:

Envoy extraordinary	$8,000
Minister resident	6,000
Chargé d'affaires	5,000
Secretary of legation	4,000
Secretary of legation, second class	3,000
Assistant secretary of legation	1,200
Consul-general[a]	3,000
Consul	2,400
Vice-consul	1,600

DUTIES.

The usual duties and powers are given the diplomatic officials. The duties and powers of consuls are to attend generally to commerce and to advance commercial relations between the Republic of Panama and other nations. Consuls-general, consuls, and vice-consuls at the respective posts issue invoices on all goods destined for the Republic of Panama, which invoices are divided into 4 classes, viz: (1) those on iron, steel, copper, zinc, wood, glassware, etc., used for machines of industry such as ships, electric lights, telegraphs, and telephones, and such wares as are considered beneficial to the general public; (2) invoices on goods whose value does not exceed $232; (3) invoices on goods whose value ranges from $232 to $465; (4) invoices on goods whose value exceeds $465.

CONSULAR CHARGES.

The consular invoice charges on the foregoing four classes are as follows: class 1, $2.32; class 2, $3.72; class 3, $4.65; class 4, $5.18 for the first $465 worth of goods, and 93 cents extra for each additional $465 worth or fraction thereof.

There are also the following special charges: on gold, 10 per cent of the invoice value; on precious stones, 25 per cent of the invoice value; on silver, 3 per cent of the invoice value.

Ships leaving a foreign port for the Republic of Panama must pay the following charges on their manifests: on the first 100 packages, $4.65; on each additional 100 packages or fractional part thereof, 93 cents.

The consuls-general, consuls, and vice-consuls are authorized to do among other things the following at the rates named: for making personal visits to ships, $4.65; for attending ships outside of office hours, expenses, and in addition, $3.72; for authorizing a testament, $4.65; for being present and opening a testament, $2.79; for registering documents, first copy, $3,25, and for each copy thereafter, 93 cents;

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[a] The consul-general at New York receives $3,600 per annum.

for issuing certificate of nationality, $1.39; for furnishing three copies of the manifests of ships, $4.65; for certifying three copies of ships' manifests, $1.86; for executing protests and declarations, $2.79; for viséing passports, $2.32; for legalizing other documents with seal, $2.32; for registering births or deaths of Panamans in foreign countries, 93 cents; for inventorying estates of Panamans who die in foreign countries, one-half of 1 per cent of the value; for managing such estates and liquidating them, 5 per cent of the value. For any other service not included in this list the same fees may be charged that are paid to notaries public where the consulate is located.

It will be observed that on all bills of goods sent to this Republic the consular charges are very high. This is especially true on very small shipments. So far as I am able to see there is no exception in favor of small shipments. On a bill, for instance, of $25 worth of shoes the consular charges would be one-third of the value of the property; then must be added to this the stamp, when the goods reach Panama, and 25 per cent ad valorem, payable in silver, on the gold value, or, in other words, about 12 per cent.

It is provided that consular invoices on goods shipped from the United States and from Europe must be paid in gold, whereas in other countries the consular charges may be paid in Panama money, which is now current on the market at $2.15 for $1 in gold.

H. A. Gudger, *Consul-General.*

Panama, Panama, *June 24, 1904.*

COMMERCIAL USES OF APRICOT KERNELS.

(*From United States Consul-General Skinner, Marseille, France.*)

In reply to a series of questions propounded by a California correspondent, I have to say that both the sweet and bitter almond oil of commerce are usually obtained from apricot pits, which are much cheaper than the true sweet and bitter almonds, and yield a product approximately as valuable. In this part of France, where apricots are grown on a very large scale and manufactured into jelly and marmalade, the pits are carefully preserved and dried, and are usually taken by the manufacturers of oils and essences at Grasse, Alpes Maritimes. Considerable quantities of these kernels are also imported. The *Prunus armeniaca* mentioned by my correspondent yields an oil analagous to that of the bitter almond and known commercially under this designation. The pits, after having been dried in the sun, are cracked by hand, and it is essential that the kernel be obtained in an unbroken and unbruised condition.

Sweet almonds and the pits of apricots the kernels of which yield a relatively sweet oil are crushed with their brown skins; bitter almonds and the kernels of the *Prunus armeniaca* are first relieved of their pellicles.

The kernels of sweet almonds and analogous fruits yield a fatty oil and an unformed ferment called "emulsin." These substances are also found in bitter almonds and in the *Prunus armeniaca*, and in addition thereto, amygdalin, a glucose, found as a white crystalline substance. Sweet almonds yield from 40 to 50 per cent of oil, bitter almonds from 30 to 45 per cent, and the kernels of the *Prunus armeniaca* 28 per cent.

The oil of the *Prunus armeniaca* is yellow and limpid, and contains a small quantity of hydrocyanic acid. It is ordinarily mixed with two parts of olive oil, and quickly becomes rancid.

The manufacture of the oil is an incident necessary to the subsequent extraction of the essence. While the oil is used not only for medicinal purposes, but as an illuminant, and even as a salad oil, the essence has a high commercial value, and is produced upon a large scale at Grasse, which is the world's center of perfume production.

I have no present satisfactory information in regard to the extent of the market or the prices. At retail the oils sell at from 29 to 31 cents a liter [1.05 quarts]. The undecorticated pits are quoted at from $9.65 to $10.61 for 220 pounds. H. Beau & Cie., 26 Rue Montgrand, Marseille, would be disposed to receive with interest propositions for the sale of American kernels, and would be able to quote the market price. As has been explained, the manufacture of the oils and essences takes place principally at Grasse, where the following well-known firms are engaged in it: Bérenger Jeune, Cresp-Martineng, Hugues-Guezet, Isnard-Maubert, Lautier Fils, J. Mero & Boyveau, Henri Muraour & Cie., P. Robertel & Cie., Warrick Frères.

ROBERT P. SKINNER, *Consul-General.*

MARSEILLE, FRANCE, *July 12, 1904.*

EUROPEAN BANKERS AIDING EUROPEAN EXPORTERS.

(*From United States Consul-General Guenther, Frankfort, Germany.*)

The Credit-Anstalt, the largest banking institution of the Austrian Empire, has contributed, as a silent partner of the concern, 1,000,000 crowns [$203,000] to the working capital of the exporting firm of Alois Schweiger, of Vienna. This firm, having a capital of its own of 500,000 crowns [$101,500], is engaged in exporting Austrian manufactures to China and Japan. With its capital increased, it will now open branch offices in Hamburg, London, China, and Japan. This firm was the pioneer for the Austrian export trade to eastern Asia.

In Europe the banks are the backers, in many cases the prime movers, of great ventures such as the construction of railroads at home and in foreign countries, the establishment of steamship lines and financial institutions, colonization enterprises, the operating of mines, and the promoting of factories and industrial undertakings in foreign countries. It is due largely to this financial aid by their great banking institutions that Germany, France, Belgium, and Switzerland have secured such large business interests in foreign countries, thereby giving employment to manufacturing interests at home and benefiting home capital.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *June 27, 1904.*

FOREIGN COMMERCE OF THE UNITED KINGDOM IN 1903.

(*From United States Consul-General Evans, London, England.*)

I transmit herewith a statistical abstract showing the foreign commerce of the United Kingdom for the years 1902 and 1903.

Summary of imports and exports of the United Kingdom, 1902 and 1903.

Articles.	1902	1903	Increase (+) and decrease (−).
IMPORTS.			
1. Food, drink, and tobacco	$1,122,018,290	$1,161,425,730	+$39,407,440
2. Raw materials and articles mainly unmanufactured	845,232,780	867,550,185	+ 22,217,405
3. Articles wholly or mainly manufactured	662,399,375	672,831,755	+ 10,422,380
4. Miscellaneous	12,305,925	11,203,775	− 1,102,150
Total	2,641,956,370	2,713,001,445	+ 71,045,075
EXPORTS.			
Articles of British production:			
1. Food, drink, and tobacco	85,592,185	81,886,020	− 3,706,165
2. Raw materials and articles mainly unmanufactured	172,988,360	176,894,145	+ 3,906,785
3. Articles wholly or mainly manufactured	1,137,685,135	1,173,939,295	+ 36,254,160
4. Miscellaneous	20,854,150	21,281,080	+ 426,165
Total	1,417,119,830	1,454,000,540	+ 36,880,710
Foreign and colonial products:			
1. Food, drink, and tobacco	50,021,580	51,161,235	+ 1,139,655
2. Raw materials and articles mainly unmanufactured	190,897,710	201,869,845	+ 10,972,135
3. Articles wholly or mainly manufactured	86,922,100	94,183,605	+ 7,261,505
4. Miscellaneous	1,232,675	653,135	579,540
Total	329,074,065	347,867,820	+ 18,793,755
Grand total exports	1,746,193,895	1,801,868,360	+ 55,674,465
Excess of imports	895,762,475	911,133,085	....

The following statements show the articles entering into the foreign commerce of the United Kingdom, distinguishing the imports from foreign countries and those from British possessions, and the exports to foreign countries from those to British possessions, also the exports of British and Irish produce and manufactures and the exports of foreign and colonial produce and manufactures.

H. Clay Evans, *Consul-General.*

London, England, *May 31, 1904.*

Imports into the United Kingdom from foreign countries and British possessions during the years 1902 and 1903.

Articles.	1902			1903		
	From foreign countries.	From British possessions.	Total.	From foreign countries.	From British possessions.	Total.
1. Food, drink, and tobacco:						
Grain and flour	$275,031,400	$58,840,245	$333,871,645	$276,692,570	$75,858,175	$352,550,745
Meat (including animals for food)	196,939,815	43,807,305	240,747,120	194,325,210	57,661,855	251,987,065
Other food and drink—						
Nondutiable	249,355,480	58,320,840	307,676,320	254,873,835	63,604,490	318,478,325
Dutiable	155,422,425	55,339,015	210,761,440	162,216,505	55,238,825	217,455,330
Tobacco	28,520,225	441,540	28,961,765	20,276,385	677,880	20,954,265
Total, class 1	905,269,345	216,748,945	1,122,018,290	908,384,505	253,041,225	1,161,425,730
2. Raw materials and articles mainly unmanufactured:						
Coal, coke, and patent fuel	20,480	25	20,505	13,645	6,290	19,935
Iron ore, scrap iron, and steel	24,937,325	522,535	25,459,860	24,071,900	367,065	24,438,965
Other metallic ores	19,640,905	7,432,780	27,073,685	21,687,885	7,889,570	29,577,455
Wood and timber	94,294,620	31,638,975	125,933,595	104,119,615	31,495,165	135,614,780
Cotton	203,265,595	3,079,880	206,345,475	216,951,055	8,181,835	225,132,890
Wool	25,421,745	88,877,660	114,299,405	25,739,980	91,569,085	117,309,065
Other textile materials	35,249,610	32,622,135	67,871,745	37,026,945	22,857,065	59,884,010
Oil seeds, nuts, oils, fats, and gums	85,506,540	40,665,460	126,172,000	82,497,690	39,808,165	122,305,855
Hides and undressed skins	22,033,880	18,061,345	40,095,225	19,123,080	17,786,280	36,909,360
Materials for paper making	15,634,795	1,299,070	16,933,865	16,267,415	889,920	17,157,335
Miscellaneous	72,162,580	22,864,840	95,027,420	77,484,770	21,715,765	99,200,535
Total, class 2	598,168,075	247,064,705	845,232,780	624,983,980	242,566,205	867,550,185
3. Articles wholly or mainly manufactured:						
Iron and steel, and manufactures thereof	38,928,370	621,255	39,549,625	43,156,905	155,500	43,312,405
Other metals, and manufactures thereof	65,727,085	29,639,600	95,366,685	61,782,070	30,774,280	92,556,350
Cutlery, hardware, implements	22,064,720	50,455	22,115,175	21,125,255	57,950	21,183,205
Telegraph cables and apparatus				286,800		286,800
Machinery	23,478,115	327,425	23,805,540	21,695,250	556,600	22,251,850
Ships (new)				289,330	595	289,925
Manufactures of wood and timber	11,759,265	569,105	12,328,370	11,067,015	659,295	11,726,310
Yarns and textile fabrics—						
Cotton	29,758,935	280,910	30,039,845	36,467,905	420,000	36,887,905
Wool	64,570,875	481,665	65,052,540	55,710,290	630,650	56,340,940
Other materials	97,960,995	9,495,450	107,456,445	85,955,290	11,574,310	97,529,645
Apparel	2,047,315	62,510	2,109,825	17,316,665	65,045	17,381,710
Chemicals, drugs, dyes, and colors	36,602,875	8,530,045	45,132,920	37,140,510	7,100,950	44,241,460
Leather, and manufactures thereof	43,574,965	13,156,310	56,731,275	42,800,500	13,769,255	56,569,755
Earthenware and glass	23,363,135	29,230	23,392,365	23,874,925	28,770	23,903,695
Paper	22,137,490	550,880	22,688,370	23,742,785	508,130	24,250,915
Miscellaneous	112,183,935	4,446,460	116,630,395	119,811,110	4,297,820	124,108,930
Total, class 3	594,158,075	68,241,300	662,399,375	602,222,605	70,599,150	672,821,755
4. Miscellaneous, unclassified, including parcels post	9,778,590	2,527,335	12,305,925	9,056,395	2,147,380	11,203,775
Total	2,107,374,085	534,582,285	2,641,956,370	2,144,647,485	568,353,960	2,713,001,445

Exports from the United Kingdom to foreign countries and British possessions during the years 1902 and 1903.

Articles.	1902			1903		
	To foreign countries.	To British possessions.	Total.	To foreign countries.	To British possessions.	Total.
BRITISH AND IRISH PRODUCE AND MANUFACTURES.						
1. Food, drink, and tobacco:						
Grain and flour	$3,700,850	$2,559,030	$6,259,880	$5,142,365	$2,959,335	$8,101,700
Meat, including animals for food	1,343,705	1,790,360	3,134,065	1,948,710	1,392,425	3,341,135
Other food and drink	34,429,510	38,231,660	72,661,170	31,636,875	35,538,285	67,175,160
Tobacco	590,855	2,946,215	3,537,070	654,460	2,613,565	3,268,025
Total, class 1	40,064,920	45,527,265	85,592,185	39,382,410	42,503,610	81,886,020
2. Raw materials and articles mainly unmanufactured:						
Coal, coke, and patent fuel	127,332,785	10,572,895	137,905,680	126,723,185	9,590,745	136,313,930
Iron ore, scrap iron, and steel	1,124,340	559,475	1,683,815	1,608,180	661,550	2,269,730
Other metallic ores	339,100	8,245	342,345	671,540	2,675	674,215
Wood and timber	76,580	51,180	127,760	70,980	184,840	255,820
Wool	4,457,770	191,425	4,649,195	5,182,760	282,225	5,464,985
Other textile materials	891,300	32,145	923,445	593,700	48,225	641,925
Oil seeds, nuts, oils, fats, and gums	12,604,645	3,059,830	15,664,475	11,923,065	2,959,690	14,882,755
Hides and undressed skins	1,191,335	688,320	1,879,655	5,975,270	408,910	6,384,180
Materials for paper making	1,848,005	47,180	1,895,185	1,954,770	93,850	2,048,120
Miscellaneous	7,207,280	709,525	7,916,805	7,223,880	734,605	7,958,485
Total, class 2	157,073,140	15,915,220	172,988,360	161,927,330	14,966,815	176,894,145
3. Articles wholly or mainly manufactured:						
Iron and steel, and manufactures	80,331,880	64,054,805	144,386,685	79,677,405	72,318,900	151,996,305
Other metals, and manufactures	19,569,835	11,778,425	31,348,260	21,567,645	13,223,880	34,791,525
Cutlery, hardware, implements	10,581,755	11,341,605	21,923,360	11,147,945	12,043,110	23,191,055
Telegraph cables and apparatus	5,143,755	9,049,450	14,193,205	6,710,915	2,331,410	9,042,325
Machinery	57,985,455	35,788,620	93,774,075	61,647,290	38,643,740	100,291,030
Ships (new)	22,730,200	6,622,675	29,357,875	16,587,245	4,831,900	21,419,145
Manufactures of wood and timber	2,237,895	5,112,725	7,350,620	2,161,465	5,387,475	7,548,940
Yarns and textile fabrics—						
Cotton	212,837,625	149,452,875	362,290,500	216,983,440	151,075,215	367,558,655
Wool	85,307,560	31,232,375	116,539,935	93,788,820	33,140,885	126,929,705
Other materials	43,059,220	17,891,390	60,950,610	44,630,695	18,557,955	63,188,650
Apparel	5,454,270	32,132,560	37,586,830	6,238,555	31,537,000	37,775,555
Chemicals, drugs, dyes, and colors	39,106,220	18,689,065	57,795,285	41,333,390	19,098,545	60,431,935
Leather, and manufactures thereof	8,723,835	13,330,305	22,054,140	10,921,560	13,811,485	24,733,045
Earthenware and glass	7,461,945	7,525,700	14,987,645	8,207,470	8,184,940	16,392,410
Paper	2,930,200	5,433,320	8,363,520	3,155,005	5,824,245	8,979,250
Miscellaneous	59,028,880	55,753,710	114,782,590	60,093,160	59,076,605	169,169,765
Total, class 3	662,495,530	475,189,605	1,137,685,135	684,852,005	489,087,290	1,173,939,295
4. Miscellaneous and unclassified, including parcel post	12,026,960	8,827,190	20,854,150	12,101,475	9,176,605	21,281,080

Exports from the United Kingdom to foreign countries and British possessions during the years 1902 and 1903—Continued.

Articles.	1902			1903		
	To foreign countries.	To British possessions.	Total.	To foreign countries.	To British possessions.	Total.
FOREIGN AND COLONIAL PRODUCE AND MANUFACTURES.						
1. Food, drink, and tobacco:						
Grain and flour	$2,300,650	$1,244,595	$3,545,245	$2,412,230	$1,003,740	$3,415,970
Meat, including animals for food	2,910,770	1,694,375	4,605,145	2,271,775	1,234,215	3,505,990
Other food and drink—						
Nondutiable	12,095,350	4,635,220	16,730,570	12,950,915	4,628,335	17,579,250
Dutiable	15,900,780	7,046,595	22,947,375	19,166,960	5,887,965	25,054,925
Tobacco	777,460	1,415,785	2,193,245	634,240	970,860	1,605,100
Total, class 1	33,985,010	16,036,570	50,021,580	37,436,120	13,725,115	51,161,235
2. Raw materials and articles mainly unmanufactured:						
Coal, coke, and patent fuel	2,630	....	2,630	2,550	....	2,550
Iron ore, scrap iron, and steel	286,245	3,525	289,770	175,700	20	175,720
Other metallic ores	1,474,910	3,625	1,478,535	548,365	11,240	859,605
Wood and timber	2,578,705	656,310	3,235,015	2,784,550	628,390	3,412,940
Cotton	33,611,210	210,345	33,821,555	39,366,090	86,660	39,452,750
Wool	51,190,625	364,790	51,555,415	52,315,000	309,940	52,624,940
Other textile materials	17,808,605	793,455	18,602,060	14,334,255	1,018,710	15,352,965
Oil seeds, nuts, oils, fats, and gums	22,903,530	1,075,995	23,979,525	21,755,960	1,058,610	22,814,570
Hides and undressed skins	22,412,670	1,010,425	23,423,095	19,600,815	905,535	20,506,350
Materials for paper making	575,865	4,630	580,495	565,820	9,065	574,885
Miscellaneous	32,584,805	1,344,810	33,929,615	44,598,435	1,494,135	46,092,570
Total, class 2	185,429,800	5,467,910	190,897,710	196,347,540	5,522,305	201,869,845
3. Articles wholly or mainly manufactured:						
Iron and steel, and manufactures thereof	984,495	814,830	1,798,325	964,550	1,417,555	2,382,105
Other metals, and manufactures thereof	21,428,660	804,960	22,233,620	19,704,020	839,725	20,543,745
Cutlery, hardware, implements	1,781,780	524,550	2,306,330	1,229,425	510,185	1,739,610
Telegraph cables and apparatus	....	....	....	12,545	1,000	13,545
Machinery	2,298,215	954,540	3,252,755	3,463,340	1,208,260	4,671,600
Ships (new)	....	....	....	4,690	23,605	28,295
Manufactures of wood and timber	820,775	118,000	938,775	761,055	138,455	899,510
Yarns and textile fabrics—						
Cotton	1,033,450	1,556,130	2,589,580	2,071,245	2,299,080	4,370,325
Wool	1,902,715	2,643,980	4,546,695	1,662,960	2,546,835	4,209,795
Other materials	13,346,440	6,380,610	19,727,050	14,538,860	5,590,725	20,129,585
Apparel	196,065	204,875	350,940	1,066,350	615,570	1,681,920
Chemicals, drugs, dyes, and colors	6,848,570	1,396,710	8,245,280	6,377,655	1,291,795	7,669,450
Leather, and manufactures thereof	6,634,585	1,305,685	7,940,270	6,694,360	1,210,935	7,905,295
Earthernware and glass	1,224,125	318,430	1,542,555	1,613,040	281,450	1,894,490
Paper	216,525	294,100	510,625	245,480	375,980	621,445
Miscellaneous	7,504,825	3,433,475	10,938,300	11,505,805	3,917,085	15,422,890
Total, class 3	66,171,225	20,750,875	86,922,100	71,915,365	22,268,240	94,183,605
4. Miscellaneous and unclassified	1,053,000	179,675	1,232,675	482,170	170,965	653,135
Total	286,139,035	42,435,030	329,074,065	306,181,195	41,686,625	347,867,820

CAPE COLONY TARIFF DECISIONS.

(*From the British Board of Trade Journal of July 7, 1904.*)

The board of trade has received a copy of Supplement A to the customs union tariff issued by the controller of customs at the Colony of the Cape of Good Hope in May last, giving customs decisions as to the rates of duty leviable on various articles imported into that Colony, viz:

Tariff rates on imports into the Cape Colony.

Articles.	Tariff No.	General rate of duty.
Almanacs	144	10 per cent.
Beans, vanilla	144	Do.
Bells, lamps, and horns (bicycle)	144	Do.
Boilerine	49	2½ per cent.
Bottles and jars of common glass with patent stoppers and taps	54	Do.
Books, birthday	87	Free.
Boxes for delivery of ale, beer, or mineral waters	144	10 per cent.
Cachous	14	2d. [4 cents] a pound
Cards, birthday and Christmas	144	10 per cent.
Castor oil (pure)	144	Do.
Cigarettes (made entirely of tobacco)	33d	4s. [97 cents] a pound
And in addition		10 per cent.
Conduit piping (used in connection with electric fittings)	144	Do.
Corrosive sublimate	133	Free.
Crab winches and Weston pulley blocks (parts of cranes, etc.)	58	2½ per cent.
Cream of wheat (wheaten meal)	15c	2s. [49 cents] on 100 pounds.
Cresoline, vapo	43	25 per cent.
Cut-outs (electric fittings)	144	10 per cent.
Cyanide of sodium	60	2½ per cent.
Dross dust	12	3s. [73 cents] on 2,000 pounds.
Embrocation, Elliman's:		
If for animal use	133	Free.
Otherwise	43	25 per cent.
Essence, Parisian	144	10 per cent.
Force (prepared wheat)	15b	1s. [24 cents] on 100 pounds.
Gamewell's fire alarm and fittings	144	10 per cent.
Gold (unmanufactured)	92	Free.
Hessian, in the piece	83	Do.
Kapok	95	Do.
Mineral waters, so-called medicinal, such as Hunyadi and Vichy	144	10 per cent.
Meal, molassine (fodder)	18	1s. [24 cents] on 100 pounds.
Odol, floriline, and other spirituous dentifrices	30a	£1 [$4.87] an imp. gal.
And in addition		10 per cent.
Pumps, beer (bar fittings)	144	Do.
Rope, driving	51	2½ per cent.
Sewing machines	144	10 per cent.
Silver, unmanufactured	92	Free.
Smelling salts	46	25 per cent.
Spirits, perfumed, under 3 per cent proof spirit	46	Do.
Solyptol (preparation of eucalyptus)	133	Free.
Solyptol tubes	43	25 per cent.
Substructures for cyanide tanks (when used for mining purposes)	69	2½ per cent.
Tanks, brewers' steam pasteurizing	63	Do.
Toilet paper	144	10 per cent.
Tools, bicycle	144	Do.
Twine, tarred	144	Do.
Valves and gauges	63 66	2½ per cent.
Vegetal lilac, Eishopf Wasser, bay rum, and other spirituous hair washes.	30a	£1 [$4.87] an imp. gal.
And in addition		10 per cent.
Washers (when with their bolts and nuts)	53	2½ per cent.
Washers (otherwise)	144	10 per cent.
Westromite (for laying dust)	144	Do.
Wheels, tram-car	72	2½ per cent.

NOTE.—By Article III of the South African Customs Union Convention a rebate of duties is allowed on goods grown, produced, or manufactured by the United Kingdom imported for consumption within the Union, viz:

(*a*) In the case of goods liable to an ad valorem rate of 2½ per cent a rebate of the whole of the duty.

(*b*) In the case of goods liable to other ad valorem rates a rebate of 25 per cent of the duty chargeable at the ad valorem rate, but of no other duty.

AUSTRIAN RAILROAD-CAR INDUSTRY.

Under date of June 29, 1904, United States Consul General Pitcairn, of Hamburg, Germany, transmits the following translation of an article from the Neue Hamburgische Börsen-Halle, the leading local commercial daily newspaper of Hamburg:

From Vienna we receive the following letter: In consequence of the continuing stagnation in business, the Austrian car factories have recently made great efforts to secure orders for export trade. Their endeavors have hitherto had little success, as the Austrian firms have had to face the keen competition of the German and Belgian manufacturers and, in addition, are at disadvantage with their foreign competitors on account of unfavorable freight-tariff conditions.

The Italian railroads have invited tenders for 260 passenger coaches, of which only 40 third-class cars were ordered from the Stauding factory. The Turkish Government has ordered a large number of passenger and freight cars for the Bagdad Railroad, of which only a small number were ordered from the factories at Smichov and Nesselsdorf, the remainder falling to the German factories. Of a supply for the Bulgarian Government railroads, the Nesselsdorf and Stauding factories were able to secure only an order for 12 passenger and 12 freight cars; the larger portion of the order was given to a Hungarian factory.

As the Austrian car factories are still working only semidaily and with a reduced staff of laborers, the emigration to America of laborers in this line of industry is steadily increasing. The tariff war between the German steamship companies and the Cunard Line and the great reduction of the passage rates in connection therewith have also been a cause of the considerable and extraordinary increase in the number of emigrating laborers in the car-building industry. A number of efficient laborers who can not easily be replaced are now compelled to resort to emigration.

OPPORTUNITIES FOR AMERICAN CONTRACTORS.

(*From United States Consul-General Guenther, Frankfort, Germany.*)

Bath house.—The Hessian government has asked the legislature for a grant of $1,547,000, to be expended for improvements of the fiscal bathing establishment at Bad Nauheim. New bath houses with modern appurtenances come in for a large share of the planned improvements. This should afford a chance for introducing the superior American bathing and sanitary arrangements.

Burning garbage.—The city of Buenos Aires plans the erection of large works for burning garbage.

Bridges.—A bridge is to be constructed across the Rio Diamante, Province de Mendoza, Argentina, at an estimated cost of $459,828. For particulars apply to the Direccion General de Vias de Communicacion, Buenos Aires, Argentina.

The Belgian consul at Calcutta reports that a bridge over the river Ganges is to be built by the East Indian government. In conjunction therewith the river bed is to be regulated. The estimated cost of both projects is about $4,000,000.

The Governments of Bulgaria and Roumania are consulting as to the construction of a new railroad bridge over the Danube, to connect the towns of Giurgevo and Rustchuk.

Steam tramway.—The steam tramway is to be extended from Salto to Rojas, Argentina.

Waterproof covers.—Waterproof covers are much in demand at the wharves of Konstanza (Roumania) to protect the grain stored there for shipment.

Harbor works.—The German consul at Pernambuco, Brazil, reports that the harbor works of that city are to be extended.

The harbor of Spezia, Italy, is to be improved by dredging and the construction of additional wharves, involving an expenditure of over $200,000.

Street rollers.—The ministry of Bulgaria has granted $15,440 for the purchase of 20 street rollers for the use of the capital, Sofia.

Rolling stock.—The Bulgarian Government is about to increase the rolling stock of its railroads. Among other things it will add 150 new freight cars.

Fertilizers.—The steady agricultural development of the Canary Islands has caused a considerable demand for chemical fertilizers.

Briquette machines.—In order to encourage the domestic manufacture of briquettes (pressed coal) the Russian Government will now allow pitch and coal tar to come in free of duty. This will also lead to the introduction of briquette-making machines.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *July 6, 1904.*

The city council of Johannesburg, Transvaal Colony, invites bids for the construction of steel sheds for its electric tramway cars, and for the building of a steel bridge.

The Ministère des Travaux Publics in Constantinople will receive offers for the construction of five large steel bridges on the Kaiffa division of the Hedjaz Railroad.

The Belgian Government will take bids for railroad cars and for 40 linemen's huts to be built of oak wood. Apply to M. De Rudder, Administrateur de Voies et Travaux, Rue de Louvaim 11, Brussels.

The Dorpsvereenigung Alnien Harfsen, at Harfsen, Netherlands, will soon contract for the delivery of 397,000 pounds of ground Thomas slag and kainit.

The town of Belmez, in the province of Córdoba, Spain, will soon contract for the erection of electric plants.

The Spanish Government is about to establish telephone plants in the following towns in Spain: Berga, Gironella, Puigreig, Balsareny, Sallent, Castelladrae, Cardona.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *July 14, 1904.*

The minister for the colonies at The Hague, Netherlands, will receive bids for furnishing 1,371 tons of cast-iron water pipes which are to be used for the water mains of Djoewana and Ambarawa, Dutch East Indies.

The bureau of the State railroads of Belgium, at Brussels, will contract for 1,000 signal lamps in which petroleum is to be used.

The municipality of Volosa-Abbazia, Istria, Austria, will receive bids for drainage work, the estimated cost of which is $125,000.

The hospitals of Cairo, Egypt, are to receive new supplies of household linen, laundry goods, cooking and sanitary utensils, etc. For particulars apply to Directeur de Magasins Centraux de l'Administration des Services Sanitaires, Cairo, Egypt.

The director of public works of Santiago, Chile (to whom application for details should be made), will receive, up to October 1, proposals for establishing a drainage system and extending the water mains of the said city.

Owing to the extension of the tramway lines of the city of Buenos Aires, Argentina, many new cars will be required.

The following new railroad lines are to be constructed in Argentina: a connecting line between the Central Norte and the Buenos Aires and Rosario railroads; a narrow-gauge road from Rosario to Bahia Blanca, and a line to start from San Rafael to Toay.

The following new railroad lines are to be constructed in Mexico: (1) a line from Puerto Marquez to La Dicha, in the Pravos district of the State of Guerrero; (2) a narrow-gauge road in the State of Oaxaca for the Ferrocarril Urbano y Agricola; (3) a narrow-gauge road (8½ miles) in the State of Chihuahua for Alfredo Gonzalez, director of the Mariposa Mining Company. All materials for these roads will, for the term of five years, be allowed to enter free of duty.

The street railway company (Schaffhausen Schleitheim) at Schaffhausen, Switzerland, will receive proposals for furnishing materials required for an electric tramway line.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *July 18, 1904.*

EXPOSITION OF MINING AND HYDRAULIC MACHINERY IN SPAIN.

(*From United States Consul-General Lay, Barcelona, Spain.*)

I much regret to have to state that up to the present I have not heard of a single American firm having applied for space at the exhibition of mining and hydraulic machinery and appliances, and machinery and tools used in the glass, crystal, and ceramic industries, which is to be held here during September next and the following months. The efforts made by consular officers to pave the way for our manufacturers to open up new markets, and to render them assistance toward that end are not encouraged by such evident lack of interest in an exhibition which, as I have already pointed out, offers an invaluable opportunity to bring our machinery to the notice of those interested in discovering what the newest and best appliances are and where they can be purchased.

Large mining projects are in course of development in this country, but owing to the neglect on the part of our manufacturers German and English machinery and tool makers have secured the practical monopoly of a market that ought to be ours.

As was explained in the circular issued by the organizing committee of the exhibition, its object is to make known to capitalists and others interested in promoting mining and other enterprises the immense wealth contained in the subsoil and rivers of Spain, while the international section will bring before owners of mines and waterfalls the most improved machines, tools, and accessories which are at the present time in use in other countries in developing these two sources of wealth.

To encourage foreign exhibitors to take part in this exposition the Government has consented to allow free entry of all exhibits, while the railway companies have granted reductions in their freight rates. A congress of producers will be held here during the six months or more that the exhibition remains open. The circular concludes with the following remarks:

> It is therefore certain that this exhibition will be visited by great numbers, and exhibitors will have an excellent means for making their products known to the actual consumers or buyers. It will offer them a powerful advertisement and a large market in our country, where the industries connected with the international section are, so to speak, still in their infancy, only partially developed, and ready to acquire the necessary plant for their efficient working. This shows how expedient it is for foreign makers to take part in the exhibition. The Germans have not been slow to recognize this fact, and have already applied for a large area of floor space for their numerous installations.

The director of the exposition has expressed to me his surprise that our large American firms, whose machinery is as yet so little known in this country, have not been heard from. He has promised me that American exhibits will be admitted as late as the months of October, November, and December, provided the requisite floor space be applied for and secured before the 25th of September, when the exposition opens.

JULIUS G. LAY, *Consul-General.*

BARCELONA, SPAIN, *July 18, 1904.*

GERMAN COAL TRUST IN FRANCE.

(*From United States Consul Covert, Lyon, France.*)

A statement has just been published in the French press of the arrival of coal in France from Germany, by which it appears that in 1903 there were received in Havre 30,000 tons of German coal, against 12,000 tons in 1902. This coal comes from the mines of Westphalia. It is floated down the Rhine, at a very low freight rate, to Rotterdam, on scows that return empty, and it is generally freighted from Rotterdam to Havre on Dutch ships that ply weekly between those two ports. Its price f. o. b. at Rotterdam is from $1.93 to $2.04 a ton; delivered at Havre its price is about $3.45, customs duty added, or about 39 cents a ton cheaper than English coal.

The receipts of German coal at other industrial centers of France in 1901, 1902, and 1903 were as follows:

Receipts of German coal in French cities, 1901 to 1903.

City.	1901	1902	1903
	Tons.	*Tons.*	*Tons.*
St. Nazaire	1,803	59,605	86,360
Rouen		10,602	94,390
Caen		8,614	50,000
Bayonne		36,760	60,000
Marseille		28,220	115,241

The report states that in one mill in Nantes 9,920 pounds of German steam coal gave as good results as 12,698.49 pounds of Swansea coal.

The State railroads of France have bought German coal from the Ruhr, delivered at Palisse at $4.44 a ton. German coal has also penetrated into France as far as Lyon, where it is taking the place of coal from the mines on the Loire, about 38 miles from the city.

German lump coal, half size, has been offered for domestic use at the railroad depots in Paris in 50-ton lots at $7.14 a ton and in lots of 10 and 15 tons at $7.24. The price of Belgian coal, duty included, was $12.55 a ton and of English coal $13.51.

In the French ports the importation of English coals has fallen off in 1903 from 1902 about 432,000 metric tons, while the direct imports of coal from Germany have increased very rapidly.

A writer in the Economiste Français attributes this invasion of the French market by German coal entirely to the enterprise and energy of the Syndicat Houiller Rheno-Westphalien, "which in plain English means the Rhenish-Westphalien Coal Trust." The writer states that two ministers of the German Government have recognized the beneficent influence of this powerful coal company, which has played the part of regulator of the price of coal. The writer asserts that German chambers of commerce have approved the policy of this coal combination, and he recommends it to the studious attention of the chambers of commerce of France.

The basin of the Ruhr, whence most of this coal comes, furnishes about 60 per cent of the coal mined in Germany, and employs 240,000 miners.

An old German law authorized the formation of companies to work coal mines on a superficies of not over 2 hectares [4.942 acres], thus practically prohibiting the coal fields from being controlled by large and wealthy companies. In 1821 the superficies of a grant of coal land to one company was increased to 100 hectares [247.1 acres]. In 1865 this area was increased to 219 hectares [541.14 acres], and companies were permitted to consolidate. The enlargement of the working sphere of the coal companies was synchronous with increased prosperity in all branches of metallurgy, especially in the steel industry. In the face of the opposition of smaller companies that were being crushed out the Rhenish-Westphalian trust continued to augment its output and engaged extensively in the manufacture of coke and coal briquettes. The annual output has grown from 32,000,000 to 77,840,000 tons, or two-thirds of the present coal product of all Germany, in 1902. The combination has absolute control of the coal business of Germany, and this with the consent of the Government. I translate a sentence, almost verbatim, from the outline of the regulations governing the trust, as stated by the writer in the Economiste:

> The members of the trust agree not to mine and not to allow to be mined coal from pits belonging to a person not a member, and not to sell a mine or a pit to a person not a member, without the authority of the trust.

Other clauses set forth the prohibition against members selling to outside parties, all being obliged to transmit any orders received to the salesman of the trust. All manufacturers of coke and coal briquettes are under orders of the syndicate, though retaining an identity as individual firms or companies. All questions involving litigation among the members of the trust are submitted to a board of arbitration. Regulations exist governing the sale of stock by members of the trust– the price to be paid, etc.—and providing for the purchase of the holdings of a member who wishes to retire.

In pursuance of a rule in its by-laws authorizing the trust to purchase lands, coal mines, and other property, it has organized within itself the Rhenish Commercial and Navigation Company, has purchased scows, and floats its own coal down the Rhine to market.

In 1894 the coal mines composing the trust shipped daily 10,737 cars of coal, each car carrying 10 tons. In 1903 the shipments were 16,435 cars a day. The shipments from the three ports of the Ruhr for the years 1893, 1898, 1902, and 1903 were 5,000,000 tons, 6,800,000 tons, 8,300,000 tons, and 10,900,000 tons, respectively.

JOHN C. COVERT, *Consul.*

LYON, FRANCE, *July 13, 1904.*

OIL AND GAS WELLS IN FRANCE.

(*From United States Consul Covert, Lyon, France.*)

An American correspondent asks information of this consulate concerning efforts that have been made to find petroleum or natural gas in the valley of the Rhone, and as the subject may be of general interest, I submit my reply to the foregoing communication with a view to its publication in the consular reports.

The question of the existence of petroleum in the Rhone Valley has been agitated in this part of France from time to time for the last twenty years, but nothing definite has resulted thus far.

Twelve years ago greasy or oily sand was discovered in the Département de l'Ain, near Confort, and it was proposed to dig there for oil. The matter dragged along until a few weeks ago, when the spot was visited again; the same greasy sand was found, the Government was asked for a grant to work the supposed petroleum mine, and operations are to begin at once.

No search has been made for natural-gas wells.

The men who have this business in hand think that American oil men who have had long experience in studying oil fields and in drilling wells might achieve some brilliant results in this country.

JOHN C. COVERT, *Consul.*

LYON, FRANCE, *July 8, 1904.*

MANUFACTURE OF COPRA OR COCOANUT OIL.

(*From United States Consul-General Skinner, Marseille, France.*)

The merchandise known as copra is the meat of the cocoanut, from which oil is extracted in all countries where the cocoanut palm grows. The same material is shipped in large quantities to Marseille. The nut is broken by hand, the meat is extracted and either dried in kilns, as in the Philippine Islands, or in the sun, as in Cochin China. The oil is generally used for the manufacture of soap, but of late years methods of refining it have been perfected, with the result that a considerable proportion of the Marseille oil is now sold for alimentary purposes.

The inquiry as to the cost of working copra is difficult to answer satisfactorily. The Marseille manufacturers have made very large profits during the last four or five years. This has been true of manufacturers of all grades of vegetable oils as well. In a period of general stagnation, the best-equipped manufacturers have made handsome fortunes in a single year. The present cost of copra in Marseille is: Ceylon, $85.16 a ton; Manila and Singapore, $83.94 a ton.

Copra is not treated to a first and second pressing as are most oil seeds. The raw material is first passed through a cylinder press, very much as paper is fed from an endless roll through the revolving cylinders of a printing press. The pulpy mass issuing therefrom is then treated in a box press, and no distinction is made between the oils resulting from the two processes. The high-grade oils are obtained by clarification and filtration, in regard to which little really satisfactory information can be obtained. The method was guarded as a secret by one firm for some time, but at present several firms claim to be turning out equally good edible oil.

From 62 to 63 per cent of oil is obtained from the raw material. Two hundred pounds of copra properly handled should produce approximately 124 pounds of oil and 74 pounds of cake. The ordinary soap oil is now quoted at $12.82 for 220 pounds; the best Cochin oil at $13.89 for 220 pounds.

Copra oil cake is very seldom treated by chemical process, as it finds a ready sale for stock-feeding purposes. White copra cake is now worth $3.04 and ordinary cake $2.31 for 220 pounds.

ROBERT P. SKINNER, *Consul-General.*

MARSEILLE, FRANCE, *July 9, 1904.*

RAILROAD FROM DURANGO TO MAZATLAN, MEXICO.

(*From United States Consul LeRoy, Durango, Mexico.*)

In the winter and spring it was regarded as certain that the main line of the Mexican International Railroad would build at once its long-projected extension from this city through the Sierra Madre to Mazatlan, on the Pacific coast of Mexico. It was confidently predicted that when the details effecting the combination of the Mexican International, Mexican National, and Interoceanic railroads under one head had been carried out, resulting in the new Mexican National Railroad, in which the Government of Mexico is the controlling partner, this branch would at once be built. The hopes of all western Durango and of Sinaloa have been for some time centered on the project, but for several months it appeared to have been indefinitely postponed.

However, in response to a petition of leading citizens and business concerns of Durango and Sinaloa to President Diaz, asking his intervention to make the proposed extension possible, the President has forwarded a reply stating that it is the intention of the Government to grant as liberal a subsidy for the enterprise as possible. This is taken to imply that negotiations with regard to its construction are on anew. Two engineer corps are at work between here and Mazatlan, one on the east and one on the west side of the Sierra. Inasmuch as the survey has been completed and they are engaged in cross-sectioning, it is assumed that the railroad will surely be built.

As has been pointed out in previous reports, the construction of about 200 miles of track on this line, with a maximum grade of less than 2 per cent, will open up a new trunk line which will place San Antonio within about 900 miles and New Orleans within less than 1,500 miles of the Pacific Ocean.

James A. LeRoy, *Consul.*

Durango, Mexico, *July 25, 1904.*

GOAT RAISING IN MEXICO.

(*From United States Consular Agent Headen, Puebla, Mexico.*)

The ordinary domestic goat, so well known in the United States, is the species raised throughout Mexico. It is valued for its pelt, its tallow, and its flesh, both fresh and dried. As yet no use has been made of either horns or hoofs. In the vicinity of San Luis Potosi the entrails have been spun into long strings of so-called catgut, and the finer and more delicate strings have been profitably exported by mail, in small parcels, to Chicago and New York.

The Angora breed is not appreciated in Mexico, though it finds favor in western Texas, near the Mexican border. If of pure blood and if neglected during the season for pulling, it is apt to leave its hair scattered upon the scrub and brush. Furthermore, whether pure or crossed, it is more of a sheep than a goat, its skin being less than one fourth as valuable as ordinary goatskins. This destroys the value of the Angora in Mexico.

The ordinary goat, when slaughtered, yields 4 pounds of dried meat and 6 pounds of refined tallow, which, together with the skin, are worth here in the home market, in Mexican silver, $3.46 ($1.57 in gold)—the 4 pounds of dried meat, at 20 cents, 80 cents; the 6 pounds of refined tallow, at 16 cents, 96 cents; the cured skin, 2 pounds, at 85 cents, $1.70. The original cost of goats for breeding purposes is, on an average, $2.50 a head in Mexican silver ($1.10 in gold). The common goat, well cared for, is hardy and well suited to the country. It breeds four times in three years.

William Headen, *Consular Agent.*

Puebla, Mexico, *July 14, 1904.*

PAPER AND COTTON GOODS IN TURKEY.

(From United States Consul-General Guenther, Frankfort, Germany.)

In the year 1903 Turkey in Europe imported paper and cardboard to the value of about $500,000, and cigarette paper to the value of $400,000. Austria and Italy were the chief sources of supply.

The German consul at Saloniki says large quantities of all sorts of paper, including wall paper, enter that port for distribution throughout Turkey. This paper trade is in Austrian hands. Different manufacturers in Austria combine in sending out commercial travelers to Turkey, one traveler showing the products of several Austrian paper mills.

The German consul-general at Constantinople, in a report to his Government, says that Turkey is one of England's best markets for cotton yarns and cotton piece goods, taking in 1903 nearly $2,500,000 worth of cotton yarns and $15,700,000 worth of cotton piece goods. Within the last few years Italy has greatly increased her exports of cotton textiles to Turkey and is becoming a strong competitor of England in that market. If American manufacturers of cotton goods were to give energetic and intelligent attention to the Turkish market, they would probably find it a good one.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *July 6, 1904.*

MACHINE BUILDING IN GERMANY FOR THE TROPICS.

(From United States Consul Langer, Solingen, Germany.)

Germany is making special efforts in advancing a new branch of industry—the making of machinery for the Tropics, for preparing the soil and harvesting.

Besides manufacturing cotton presses, light plows and cultivators, machines for preparing fruits from which oil is extracted, removing the kernels from cotton, for manufacturing caoutchouc, etc., Germany is constantly perfecting the colonial railroads, harbor, and draining plants, and the methods of building houses for the Tropics.

Of late a machine for splitting cocoanuts, to gain the oil contained therein, has been invented, the importance of which is evident, when it is remembered that thus far the natives have cracked the nuts by hand, and that the export of these from the German colonies amounts to $1,000,000 annually.

This machine consists principally of three hatchet-like knives which work up and down, the edges meeting at a common center. The cocoanuts are placed in a funnel-shaped receptacle, giving the nuts the proper position for the knives to cut them readily. The machine is operated by a knee-shaped hand lever, which draws the knives together, thus splitting the nuts. Two experienced workmen can split 200 cocoanuts an hour with this machine, the entire weight of which is less than 200 pounds.

A prize is offered for the most simply constructed machine for extracting the fibers from bananas.

Machines made in Germany for preparing palm fruit for the extraction of oil are also disposed of in English, French, and Portuguese colonies, which, owing to good transportation facilities, are in a position to derive benefit from such machines.

While the German tropical colonies are equal to those of other countries in their production and consumption, they appear to be far behind in facilities for transportation.

JOSEPH J. LANGER, *Consul.*

SOLINGEN, GERMANY, *July 20, 1904.*

EMIGRATION OF MEXICAN LABORERS.

(*From United States Consul LeRoy, Durango, Mexico.*)

The press of Mexico has been considerably occupied for some weeks past with reports and comments upon what they consider a very extensive and a very deplorable tendency among Mexican laborers to emigrate to the United States. According to reports, Mexican laborers have been crowding the border cities en route to the cotton fields of Texas, Oklahoma, and even Louisiana and Mississippi. It is also reported that many, disgusted with their treatment, are returning, disillusioned by failure to receive the high pay promised to them. Some of the periodicals severely criticise the ranch owners and mine owners of the country, the former of whom, they state, keep their laborers in the old condition of peonage as far as possible, holding debts over them and paying the smallest possible wages, without taking into account the new conditions which have arisen in Mexico, while the mine owners are taxed with not taking adequate measures for the safety of their workmen and with absorbing the major portion of the wages paid to them in profits of the company stores, which are generally operated at every camp of any size, tickets on them being given the workmen as pay.

Doubtless there has been at least some exaggeration in all this talk about a great exodus of Mexican laborers, as well as in the talk about their returning to the border starving and relating stories of abuse and failure to keep contracts. There has been, however, a considerable movement of Mexican laborers to the United States this year; and it seems to have been related to the shortage of laborers in some southern cotton fields, owing to the emigration northward of negro laborers. If such a movement should spread seriously throughout Mexico it would create great embarrassment in some districts.

JAMES A. LEROY, *Consul.*

DURANGO, MEXICO, *July 25, 1904.*

KAPOK AND ITS USES.

(*From United States Consul-General Evans, London, England.*)

The current issue of Chambers' Journal contains the following:

> Every year that busy center of commerce, Amsterdam, receives nearly 1,000 pounds' weight of a curious and interesting vegetable substance known in Java and in the trade as kapok, which is found very useful for stuffing cheap mattresses and

pillows, among other purposes. It is a sort of yellow wadding which nature uses as a covering for the seeds of certain trees in the Malaccas. Its fibers being very nonresisting, it has been found impossible to spin or weave it, but it gives excellent results for bedding, making a mattress delightfully soft if it is exposed to the sun before being used. It is exceedingly light and buoyant, in this respect greatly surpassing cork, as it will support in the water thirty-five times its own weight. The tree whence it is derived (Eriodendron) grows rapidly, and in the second year is 12 to 15 feet high, but it does not fruit abundantly until the fourth year. Like the cotton plant, it bestows two gifts on man, the special wadding mentioned, which lines the husk, and the oil extracted from the seeds, which is used especially in the Chinese markets. The threads of the soft fiber taken from the pods are light yellow, rather silky, and only about an inch in length. They are made into thin rings. Kapok, it is said, never decays. Among the ever-increasing uses to which this curious vegetable product is put—causing the culture of the Eriodendron to make great strides in the Dutch Indies, while efforts are being made to cultivate it in similar climates—it has been suggested that excellent life-saving apparatus might be made from it, which should be in the form of mattresses and cushions, easily obtainable in moments of danger. Three hundred grams of kapok [10½ ounces] will support a man of 10 stone 5 pounds [145 pounds] in the water; and experiments by a French society with articles made of this wadding, which had previously been soaked in water for eighteen hours, gave excellent results. One small mattress supported several men. It is probable that soon all ships' beds will be made of kapok.

H. CLAY EVANS, *Consul-General.*

LONDON, ENGLAND, *July 27, 1904.*

FOREIGN COMMERCIAL NOTES.

(From United States Consul-General Guenther, Frankfort, Germany.)

The trade of the Kongo Free State, combined imports and exports, amounted in 1903 to 87,889,000 francs [$16,962,258]. The principal countries supplying goods imported by Kongo, with the value of the imports from each, were: Belgium, 16,500,000 francs [$3,184,500]; England, 2,800,000 francs [$540,400]; France, 1,700,000 francs [$358,100]; Holland, 1,000,000 francs [$193,000], and Germany, 800,000 francs [$154,400]. The foreign trade has considerably increased during the past year.

The prohibition against the importation of whisky into Finland has been rescinded.

In 1903 Denmark exported 198,000,000 pounds of butter, of which 188,000,000 pounds went to Great Britain, the rest chiefly to Germany.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *July 11, 1904.*

CHAIN INDUSTRY OF GERMANY.

(From United States Consul Langer, Solingen, Germany.)

During 1903 there was an increased demand from foreign countries for chains from German factories, enabling them to again employ the hands which had been discharged for lack of work.

Competition by machine-made chains and chains welded by electricity tended to lower the price of forged chains, although the quantity used did not decrease. The trade in crane and ship chains remained about the same during the first half of the year in spite of the labor strike, which lasted nearly three months. During the last half of the year a very noticeable slack set in, which still continues, chiefly because of lack of activity in navigation, so that hardly any orders are received from harbor cities.

As a result of the strike, during which factories in the city of Iserlohn, the principal chain-manufacturing center of Germany, were entirely shut down, foreign competitors received a good share of the orders, and much of the trade thus acquired is still held by them.

JOSEPH J. LANGER, *Consul.*

SOLINGEN, GERMANY, *July 13, 1904.*

ST. GALL'S EXPORTS TO THE UNITED STATES.

(*From United States Consul-General Peters, St. Gall, Switzerland.*)

EXPORTS IN GENERAL.

The year 1903 was a record year for the district of St. Gall, its exports to the United States amounting to $10,545,396, an increase of $74,424 over the very large exports of 1902. The total value of Swiss exports to the United States in 1903 being $23,061,790, it follows that the share of St. Gall was 46 per cent.

The following statement shows the exports to the United States from the St. Gall consular district and from all Switzerland in 1864, 1874, 1884, 1894, and 1903:

Exports from Switzerland and St. Gall consular district to the United States.

Year.	Exports to the United States from—		Percentage of St. Gall in total exports of Switzerland.
	Switzerland.	St. Gall.	
1864	$7,190,532	$67,989	0.95
1874	11,840,923	3,468,385	29.3
1884	16,105,989	6,473,076	40.25
1894	13,364,066	5,295,138	40
1903	23,161,790	10,545,396	46

Notwithstanding the steady increase in the total exports from St. Gall to the United States, the exports of products of some of the leading industries of the district have declined. The value of the silk and silk goods exported to the United States fell from $8,708,559.31 in 1882 to $2,736,032 in 1896, and rose again in 1903 to $5,403,126. In 1895 the value of the cotton and woolen goods exported reached $1,522,095, and fell in 1903 to $876,659. The value of the exports of straw plait and horsehair braid was $749,624 in 1870 and fell in 1887 to $83,341, to reach again $201,734 in 1903. Watches and watchworks reached their highest export in 1872—$3,534,315—and their lowest in 1877—$688,826; in 1903 it rose again to $2,168,030. The export of musical boxes fell from $300,709, its highest point, to $82,562 in 1903. Leather exports fell from $506,231 in 1883, their highest point, to $6,262 in 1903. The export of aniline dyes rose in 1899 to $827,598 and went down in 1903 to $750,245; that of cheese rose, with slight fluctuations, from $46,624 in 1864 to $1,271,235 in 1903.

The cause of decline in the exports of silk goods, cotton and woolen goods (knitted goods), straw plait and horsehair braid, watches and watchworks, musical boxes, and leather lies principally in the manufacture of these articles in the United States. The export of aniline dyes, which continues to flourish, is explained by the fact that the chemical works of Switzerland have imitated certain articles patented in Germany, but not protected in Switzerland; they can thus compete with the great German industry in aniline dyes.

EMBROIDERY INDUSTRY.

Cotton embroideries.—The phenomenal development of the embroidery industry and of the exportation of embroidery to the United States is explained by the circumstance that, with the strenuous cooperation of its American rivals established here, the industry has adapted itself so successfully to its market. A luxury has been converted into a necessity. What was formerly exported only for the rich and well-to-do is now produced at such low prices that even the poorer people can have their linen and clothing trimmed with cheap embroideries. This branch of trade has been handed down from father to son, generation after generation, till it has been brought, technically and commercially, to the highest pitch of perfection. Continual communication with the centers of European good taste has refined the quality of the merchandise, and it is owing to the influence of the American-Jewish element that it has accommodated itself to the practical requirements of American consumers. The pure mountain water—the soft water of the mountain lakes—is admirably suited to give the dazzlingly white and lasting bleach to the white embroideries, which are equaled in Europe in this regard only by the product of the works of St. Quentin, France. But the great strength of the embroidery industry lies in the low wages of the embroiderers and their assistants, which insure it against the danger of the United States becoming a rival instead of a large buyer.

The total export of Swiss embroidery, white goods, and curtains is more than $23,000,000. The greater part of the money received therefor remains in the country as wages—only a part of the cloth used being imported from England (Manchester and Nottingham), all the other materials being produced in Switzerland.

The total exports of this class of embroideries during the year 1903, and their export to the United States, were as follows:

Exports of Swiss cotton embroideries, etc., 1903.

Description.	Total exports.	Exports to the United States.
Curtains	$1,957,500	$986,616
Covers and shams	788,504	189,254
White embroideries	15,542,365	7,893,140
Tulle embroideries	105,595	1,526
Laces and novelties	4,848,369	1,493,272
Appenzell hand-embroidered handkerchiefs	12,352	....
Total	23,254,685	10,563,808

Silk embroideries.—The exports of silk embroideries in 1903 amounted to $1,739,538, of which those to the United States were valued at

$256,762. A small silk-embroidery industry has been developed in the United States by Swiss emigrants. It supplies the wants arising from quick sales in fashionable articles in the height of the season, when there is no time for new orders to be filled from Europe. The capable silk embroiderer easily earns in the United States $5 to $6 a day, while his Swiss rival makes $1.

Wages of Swiss embroiderers.—The daily wages paid the Swiss embroiderers in 1903 were as follows: maximum, 97 cents to $1.16; average, 68 cents; minimum (hand-machine workers), 20 cents for 11 hours. The daily wages varied from 97 cents to $1.35 for specialists, and for white-goods workers from 68 to 97 cents. Notwithstanding the small wages of the embroiderers, the deposits in small sums in the savings banks of the Canton of St. Gall, with a population of about 250,000, amount to $21,000,000.

The St. Gall embroidery district contains about 500,000 people. In the industry alone there are about 100,000 men, women, and children engaged, the children being employed as helpers in the hand industry. The persons working in their homes are also occupied with farming, which alone makes it possible for them to exist.

WEAVING INDUSTRY.

Weaving in colors in the St. Gall consular district is declining. Last year, in a small district of the Canton of St. Gall, nearly 500 looms were stopped. There was formerly a flourishing trade with the Orient in colored goods, but Swiss firms in Italy, with the help of cheaper labor, have supplanted the home industry.

The export of dyed fabrics of better quality amounts to about $1,930,000, and is principally to British India, Turkey, and the Danube States. Plain white and ecru fabrics to the value of perhaps $96,500 are exported to the United States. These are partly intended to be made up with St. Gall embroideries; the finest quality of the rest is used as typewriting cloth.

THOMAS WILLING PETERS, *Consul-General.*

ST. GALL, SWITZERLAND, *July 8, 1904.*

NEW METHOD OF DEGREASING WOOL.

(From United States Consul Pike, Zittau, Germany.)

During the past month the last of a series of patents has been granted to a German company covering new methods and machinery for the degreasing of wool by a dry process. The degreasing is successfully performed by the use of infusorial earth as an absorbent. The earth is applied to the wool with great force by a current of air generated by specially constructed but inexpensive machinery, and the wool is cleaned and degreased evenly throughout.

It seems that the idea of degreasing wool by a dry method is not new, but none of the many plans hitherto tried have proved entirely successful, because they did not clean and degrease evenly. For years efforts have been made to invent a process lacking the admitted disadvantages of the present method of degreasing wool with alkalies and other solvents, all of which have a bad effect on the wool fibers.

The promoters of this new method claim to have solved the problem on entirely new lines. The wool fibers cleaned by it retain their natural qualities as to strength, elasticity, and waviness, and the cleaning is done at a greatly reduced expense. The absorbent earth being carried with complete regularity to every part of the wool, the degreasing is consequently accomplished with the greatest regularity. On account of the force of the air current to which the wool is subjected, the fibers become disordered, so it would appear that the patent has not so many advantages for cleaning wool intended for combing as it has for cleaning carding wools. The process has many advantages in the treatment of skin wools—now cleaned by strong alkalies—as the dyes take better, which is an important point in the manufacture of fine military cloth and other fine cloths in delicate colors. In the treatment of waste wools, in which the mineral oils are difficult to remove, except by the use of strong alkalies, which partly destroy the natural qualities of the fibers, it is especially important.

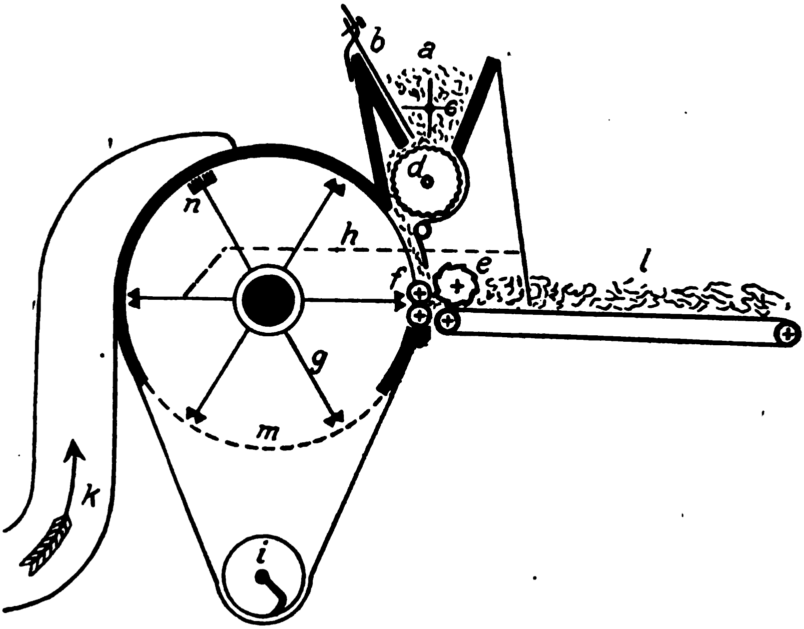

FIGURE 1.—Diagram of machine for degreasing wool by dry process.

The wool enters the machine as dirty and oily lumps, and leaves it in a clean, white state, free from fat. The infusorial earth is put into a funnel-shaped feeder (*a*, figure 1), and the quantity required, which depends upon the condition of the wool, can be regulated by a movable appliance (*b*). The wool is fed into the machine by a revolving belt (*l*). A wheel (*d*) covers the wool between the feeding rollers (*e*, *f*) with infusorial earth, when it is caught by the quickly revolving arms (*g*), which are so arranged as to form a spiral, and carried to the outlet. During this process the wool is so treated by infusorial earth, with the aid of a current of air from the exhauster (*k*), that it is perfectly and evenly degreased. As rollers (*f*) only allow a certain amount of wool to pass through, the quantity of earth to be used is entirely regulated by the condition of the wool. In order to protect the workman against an atmosphere filled with dust, a cover (*h*) is attached to the fore part of the machine. The earth, when saturated with oil, falls through a sieve (*m*) and is carried away by a spiral-shaped contrivance (*i*) to a bin of ordinary construction. The sieve at the entrance of the exhauster is kept clean by a revolving brush (*n*).

The infusorial earth can be used three or four times over and then utilized in the manufacture of material for waterproof roofing.

The price of the machine is very low. It requires but little space and is so simple in construction that it can be handled by anyone. All this would seem to make the invention an important one.

The headquarters of the company are in Berlin, where the machines are made.

The foregoing facts are gathered from the consulting engineer of the company.

WILLIAM J. PIKE, *Consul.*

ZITTAU, GERMANY, *May 20, 1904.*

SWISS-AMERICAN TRADE.

(*From United States Consul-General Peters, St. Gall, Switzerland.*)

That our manufacturers could materially increase their sales in Switzerland if the matter were given proper consideration and expert men were employed to canvass the country, there can be very little doubt. Machinery, iron, railroad supplies, horses, and agricultural implements are almost all purchased from German firms who have their men on the ground watching every opportunity for trade, studying every requirement of the people, and in every way that is possible conforming in credit, fashions, time of delivery, etc., to the requirements of the inhabitants of the country. This we must also do if we intend to enter as competitors against our powerful opponents. If we would but pursue the same methods that our merchants pursue at home I have no fear that we should fail to obtain our proper percentage of Swiss trade.

The following statement of the principal imports of Switzerland for three months will show the unsatisfactory position of the United States among the importers. In these statements I have not given the names of all the countries from which Switzerland imports, but only those which are our greatest competitors, although in all cases I give the total value of the imports as well as the gross weight, number, or bulk.

Imports into Switzerland from the United States and its principal competitors during three months.

Articles and whence imported.	Quantity.	Value.	Price per unit.
Corn:			
Argentina ....bushels..	349,893	$191,815	$0.548
United States ....do....	16,592	9,679	.583
All other countries ....do....	273,640	270,214	.98
Total	640,125	471,708	.7369
Wheat:			
Russia ....bushels..	2,451,410	2,359,535	.9628
United States ....do....	85,100	82,257	.9665
All other countries ....do....	975,925	1,061,883	1.08
Total	3,512,435	3,403,675	.9687

Imports into Switzerland from the United States, etc.—Continued.

Articles and whence imported.	Quantity.	Value.	Price per unit.
Flour:			
France .... barrels..	60,017	$191,743	$3.19
United States .... do....	149	477	3.20
All other countries .... do....	35,683	113,304	3.17
Total	95,849	305,524	3.19
Horses:			
Germany .... head..	1,656	(a)	....
France .... do....	997	(a)	....
England .... do....	143	(a)	....
United States .... do....	1	(a)	....
All other countries .... do....	632	(a)	....
Total	3,429	$445,190	$129.00
Sole leather:			
Germany .... pounds..	255,860	(a)	....
United States .... do....	196,240	(a)	....
All other countries .... do....	....	(a)	....
Total	573,220	154,408	.269
Fine shoes:			
Germany .... pairs..	154,880	(a)	....
United States .... do....	5,720	(a)	....
All other countries .... do....	52,480	(a)	....
Total	212,080	245,961	1.11
Agricultural machinery:			
Germany .... pounds..	370,480	(a)	....
United States .... do....	36,520	(a)	....
All other countries .... do....	64,240	(a)	....
Total	471,240	33,246	.075
Cigars and cigarettes:			
Germany .... pounds..	25,960	(a)	....
Holland .... do....	15,620	(a)	....
United States .... do....	1,100	(a)	....
All other countries .... do....	45,320	(a)	....
Total	88,000	84,920	.965

[a] Not given.

The following statement shows the total imports of miscellaneous articles into Switzerland during the year 1903, and the imports of the several articles from the United States for comparative purposes:

Imports of various articles into Switzerland from the United States and other countries.

Articles.	Total imports into Switzerland.	Imports from the United States.
Lard .... pounds..	3,774,768	3,649,664
Dried fruits .... dollars..	284,441	28,440
Raw tobacco .... pounds..	15,384,286	8,771,970
Sirup .... dollars..	120,401	60,200
Cotton .... pounds..	51,178,170	2,834,940
India rubber .... do....	44,512	26,794
Preserved meats .... do....	3,649,664	2,475,748
Wheat .... dollars..	15,788,851	3,157,770
Maize .... do....	1,879,346	93,967

Russia has undoubtedly a great advantage over the United States in trade with Switzerland, in her cheap water freight to Trieste and Genoa, and also in the fact that she can load her wheat almost directly into her ships from her agricultural districts. This may also be the case with corn from Argentina. If the Great Lakes could be utilized for transportation, I can not see why we should not deliver corn to Italy and Switzerland as cheap as Argentina.

Certainly there is business to be done in the sale of horses, and if the animal is of proper character, well built, about 15.3 hands high, short-coupled with good shoulders and legs, he will find a ready market, provided always that care has been taken in transportation, and that a receiving station is established where the animal can recover from the effects of his voyage before he is offered for sale.

THOMAS WILLING PETERS, *Consul-General.*

ST. GALL, SWITZERLAND, *July 8, 1904.*

TRAVEL IN THE HOLY LAND.

(*From United States Consul Merrill, Jerusalem, Syria.*)

The section of the Jerusalem and Damascus carriage road between Bireh and Sinjil (St. Giles) has recently been completed and opened to the public. I reported the opening of the section between Jerusalem and Bireh in 1901 and gave a list of all the other roads for carriages which existed up to that time. For convenience this list may be repeated: Jerusalem to Hebron, 23 miles; Jerusalem to Yafa, 40 miles; Jerusalem to Jericho, 22 miles; Jerusalem to Mount of Olives, 4 miles; Jerusalem to Bireh, 10 miles; the new section, Bireh to Sinjil, 13 miles. To these must be added a branch leading off the Yafa road to Ain Karim—a place for outings—3 miles, making the distance from Jerusalem to this village 5 miles, and a branch leading off the Hebron road from the Pools of Solomon to the gardens at Artas, 2 miles.

So many inquiries are made at this consulate about carriage roads in Palestine that I may repeat also that from Jericho to the Dead Sea, the Jordan, and back to Jericho carriages pass when the mud is not too deep, although there is no made road. Carriages go from Yafa to Gaza, 40 miles; from Yafa to Haifa, at the foot of Mount Carmel, 60 miles; and from Gaza across the desert to Beersheba, although no made roads exist. Beersheba is nearly two days' journey south of Hebron.

The section of the Jerusalem-Damascus road between Sinjil and Nablus (the ancient Shechem), 17 miles, is graded in sections amounting to about half the distance. It is hoped that after something more than a year the remaining piece will be completed and the road opened the entire way from Jerusalem to Nablus, 40 miles. This will be a great boon to travelers, as all these roads are.

There are rumors, especially in the English and American papers, of other roads already projected, and even railroads; but probably years must pass before these will be built. Distances are not great, but the country is hilly and rocky and, with limited means, road making is a slow process.

SELAH MERRILL, *Consul.*

JERUSALEM, SYRIA, *July 6, 1904.*

No. 287—04——7

NOTES ON TRADE OF FOREIGN COUNTRIES.

(From United States Consul-General Guenther, Frankfort, Germany.)

The export of wood [firewood, lumber, staves, cut and sawed wood, etc.] from Russia during the year 1903 was valued at $33,475,000. Archangel, Kronstadt, and Riga are the principal ports of shipment for wood, and England and Holland are the most prominent customers.

The exportation of Swedish butter in 1903 amounted to 86,809,432 pounds, more than two-thirds of which went to Great Britain.

The German consul at Alexandria reports that the Egyptian cotton fields were in great danger from immense swarms of locusts, which for weeks were fought by the farmers and their help, assisted by Government troops. At present the prospects for a big crop are favorable.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *July 14, 1904.*

TRADE UNIONS IN GERMANY.

(From United States Consul-General Guenther, Frankfort, Germany.)

The organ of the general committee of the trade unions of Germany publishes statistics with reference to the German trade unions. In these the following figures appear concerning the growth of centralized trade unions during the last decade:

Membership of German trade unions, 1894–1903.

Year.	Number of members.	Increase.	Percentage of increase.
1894	246,494	22,964	10.2
1895	259,175	12,681	5.2
1896	329,230	70,055	27.0
1897	412,359	83,129	25.2
1898	493,742	81,383	19.7
1899	580,473	86,731	17.5
1900	680,427	99,954	17.2
1901	677,510	....	....
1902	733,206	55,696	8.2
1903	887,698	154,492	21.0

Only the year of great business depression, 1901, shows a decrease. Last year there was a very large growth, and during the present year the membership of trades unions, according to estimates, has passed the million mark.

Sixty-three unions had an income of $4,000,000 in 1903, against expenditures of $3,274,000. The metal workers' union had the highest receipts, $670,000; then follows the printers' union, with $467,620; the masons', with $466,666; the woodworkers', with $307,143; the carpenters', with $158,334, and the miners', with $150,240. The largest fund on hand is that of the printers' union, about $1,000,000; next comes the masons' union with about $420,000. The total funds of all the German trades unions at the end of 1903 were a trifle less than $3,000,000.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *July 15, 1904.*

HARVESTING BY HAND AND MACHINE IN SPAIN.

(*From United States Vice-Consul Summers, Madrid, Spain.*)

Mr. Fidencio Gras, an agricultural engineer, has compared the cost of harvesting a hectare [2.47 acres] of grain by hand and by a binding machine, with the following result: Harvesting by hand—paid to laborers [on piecework], $4.82; binding sheaves, $1.15; twine, 29 cents; total, $6.26. Harvesting by binding machine (1 day)—proportion of cost of machine to be paid in a day (the machine to be paid for in five years and to work twenty days each year), $3.08; 2 yoke of oxen, $1.93; 2 workmen, $1.54; oil, 6 cents; twine, $2.31. As the machine harvests 4 hectares a day, the total expense is $2.09 a hectare (2.47 acres).

Mr. Gras adds: "To the saving must be added the value of the greater amount of grain than could be thrashed by hand; the saving of the standing grain cut by laborers for their bedding; the lessening of the risks of fire arising from the camps of the laborers, nearly all of whom smoke, and some items of less importance."

In this connection I may here add that not more than a week ago His Majesty Don Alfonso XIII visited the large estate of the Marquis of Luque, some 40 miles from Madrid, with the sole intention of witnessing the working of various sorts of agricultural machinery, most of which came from America.

MADDIN SUMMERS, *Vice-Consul.*

MADRID, SPAIN, *July 10, 1904.*

FISCAL REGULATIONS OF THE REPUBLIC OF PANAMA.

Under date of July 15, 1904, Joseph W. J. Lee, secretary to the American legation at Panama, transmits a translation of part of law 88, July 5, 1904, "concerning fiscal regulations," published in the Official Gazette of July 12. This law establishes and regulates taxes and dues and import and export duties for the Republic of Panama.

List of taxes and dues.[a]

1. Commercial tax.
2. Tax on the production and retail sale of intoxicating liquors.
3. Slaughterhouse tax.
4. Tax on landed property and live stock.
5. Tax on lotteries.
6. Tax on mother-of-pearl fisheries.
7. Tax on mines.
8. Tax on patents and trade-marks.
9. Stamped paper and postage.
10. Tax on the registry of public and private documents.
11. Tax on ballast taken aboard in the Republic.
12. Light-house dues.
13. Consular fees.
14. Tax on national property.
15. Telegraphs and posts.
16. Various and eventual import duties.
17. Export duties.
18. Immigration tax.

1. COMMERCIAL TAX.

The commercial tax will be levied upon (1) all articles and effects of commerce which are imported for sale or consumption in the territory of the nation; (2) banking and exchange operations, and (3) shipping companies in the ports of the Republic.

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[a] The following numbers in this tax list have been omitted by Secretary Lee: 4, 8, 9, 10, 14, 15, and 18.

IMPORT DUTIES.

Foreign goods will pay duty once only, at the port of arrival, in conformity with the tariff established by this law. These goods are divided into three general classes and one special class:

General Classes.

1. Articles assessed at 15 per cent ad valorem according to invoice.
2. Undutiable articles.
3. Articles subject to a special tax, such as liquors.

In the first class are included all goods not included in classes 2 and 3.

In the second class are included:

(*a*) Animals for breeding purposes; (*b*) ice, guano, live plants, seeds, trees, shrubs, and seedlings; (*c*) machines which do not weigh more than a thousand kilograms; (*d*) machines for making, improving, and keeping in order roads and canals; cars, appurtenances, and materials destined exclusively for railroads, and materials for the construction of telegraphs; (*e*) mineral coal when it is imported by national or foreign companies for their own use; steam motors of any kind; iron bridges; (*f*) vessels, complete or in section, which are imported to navigate the waters of the Republic, and the materials proper for their construction; (*g*) primal materials necessary to the making of beer, candles, and soaps, with the exception of tallow; (*h*) articles necessary for printing and binding books, ruling paper, lithography, photography, zincography; ink, paper, and articles necessary for the printing of newspapers and books; (*i*) printed books and newspapers which come through the post office; (*j*) legitimate gold mon eynot of inferior coinage to that issued by the nation.

Articles imported by navigation companies for the exclusive use of their ships; articles for religious use imported by prelates; articles intended for charitable or benevolent institutions (in this case permission must be obtained by the directors of such institutions and oath must be made that said goods will be applied to no other purpose); articles imported for undertakings declared by the Government to be of public utility; articles forwarded to diplomatic agents for their exclusive use.

In the third class are included alcohol, distilled liquors, wines, beer, and fermented liquors, soda water, lemonade, charged beverages, sirups, bitters, elixirs, aperients, and extracts used in the manufacture of liquors, which shall pay duty according to the following tariff:

Common aguardiente and its compounds (up to 21 degrees, according to Cartier's areometer), such as rum, gin, whisky, refined anisado, brandy, rosoli, orange cordial, etc., $1.50 a liter; liquor of from 22 to 42 degrees, such as chartreuse, crème de cacao, peppermint, Padre Kernan, kummel, ajenjo, etc., $2 a liter; alcohol up to 42 degrees, $1 a liter; alcohol of more than 42 degrees, $1.50 a liter; condensed liquid, such as is used in the manufacture of dutiable liquors, $15 a liter; angostura bitters, fernet branca, coca, etc., 60 cents a liter; white, red, or Bordeaux wines, 10 cents a liter; wines known as sweet, dry, malaga, sherry, oporto, and champagne, $2 a liter; vermuth and beer of all kinds, 20 cents a liter; mineral or charged waters, patented elixirs, and medicinal wines, imported in special bottles, well known among druggists, 25 per cent in silver on the net value in gold.

Liquors imported into the Republic, which have paid duty, may be exported free in part or in whole, and should the exportation take place inside of six months after importation the duties shall be refunded through the proper channels.

Special Class.

Cattle for public consumption (dead)—males, $20; females, $15; salt—during the present year, $1 for 220 pounds; after the present year, $2 for 220 pounds; tobacco—cigars, $4 for 2.2 pounds; cigarettes, $3 for 2.2 pounds; any other form, $2 for 2.2 pounds; coffee, $8 for 220 pounds; matches—wax, 80 cents for 2.2 pounds; wood, 30 cents for 2.2 pounds; materials for manufacture of matches, 10 cents for 2.2 pounds; opium (when the manufacturing ceases), $15 for 2.2 pounds; legitimate gold money of inferior coinage to that of the nation, one-fourth per cent.

Every importer who is obliged to pay the commercial tax on imports shall present at the local office of the treasury a certificate or receipt from the marine insurance company or society, authenticated by the Panaman consul, in which is stated the amount of insurance which the invoice carries, so as to prove the real value of the importation. Said consuls are not authorized to exact any fee for this authentication.

The commercial tax on invoices consigned to merchants who defraud the Government by false declaration shall not be paid in the office of the treasury. In such cases the administrator of the treasury shall immediately seize such goods, and if after three months the importer has not made declaration in order to pay the proper duties with an added 25 per cent and charges, the administrator shall declare that the importer has abandoned the merchandise and shall proceed to sell the goods and devote the proceeds to the expenses incurred and other expenses already mentioned.

The municipalities of Panama and Colon will continue to collect the commercial tax imposed upon provisions imported from abroad and destined for local consumption which are not legally consigned to merchants in the said cities. Rice, flour, maize, and sugar are excepted from the above, as these articles pay duty to the nation.

COMMERCIAL LICENSES.

The license tariff, payable monthly in advance, is as follows: First-class institutions, $300; second-class, $150; third-class, $75; fourth-class, $25; fifth-class, $10.

BANK TAXES.

Persons engaged in the banking business, that is to say, those who buy or sell bills, who buy or discount commercial paper or credits, and those who are engaged in money changing must purchase licenses which will give them the right to engage in the above-mentioned business. These establishments shall be examined by a board composed of the governor, the treasurer-general of the Republic, or the provincial administrator of the treasury, according to the place, and a banker or exchange agent; in this board the governor's secretary shall act as secretary.

TAX ON STEAMSHIP COMPANIES.

Steamship companies shall pay monthly a commercial tax as follows: first-class, $100; second class, $75; third class, $50.

Composing the first class are those companies whose ships arrive at the ports of the Republic more than twice a month; to the second class belong those whose ships arrive only twice a month, and to the third class those which receive and dispatch one ship monthly.

The payment of these sums shall be verified by each one of the agencies which the said steamship companies have established in the Republic.

The steamship companies whose vessels are exclusively employed in interoceanic traffic shall not be subject to this tax, nor those whose vessels are engaged in regular communication between two or more ports of the Republic and which receive no subsidy.

2. LIQUOR TAXES AND LICENSES.

The distillation and rectification of intoxicating liquors is subject to a monthly tax of $12 upon each liter [1.0567 quarts] of capacity, when the Egrot or a similar system, whereby distillation and rectification are accomplished at the same time, is used, and of $6 on each liter of capacity in simple operations.

These taxes may be paid monthly or bimonthly, as desired.

* * * * * * *

Licenses for the sale of intoxicating liquors at retail shall be estimated according to the books of each establishment, in conformity with the requirements established by the respective boards and according to the following tariff: On sales of $3 a day the license is $5 a month; $4 to $8 a day, $7 a month; $8 to $15 a day, $15 to $20 a month; $16 to $30 a day, $30 to $40 a month; $30 to $50 a day, $60 to $80 a month; above $50 a day, $100 a month.

Movable booths for the sale of liquors, such as are used occasionally in festival times, whether they do or do not belong to persons who possess licenses for the sale of liquors, shall be required to purchase a license costing $2 for each day or part of a day.

All persons who sell liquors in quantities from a glass full to a demijohn full, decanted, are subject to this tax. By a demijohn full is meant a measure of 16 liters [16.9 quarts].

Producers who have taken out a distillery license can sell the liquors distilled in such distilleries by the demijohn, with no obligations to obtain another license therefor. When the distillery license has expired it is necessary to obtain special permission to sell so that the sales may be verified.

3. SLAUGHTERHOUSE TAX.

The following tax is hereby imposed:

In the districts of Panama, Colon, and Bocas del Toro, for slaughtering male cattle, $8 a head; cows, $6 a head; swine, $2 a head.

The executive power is authorized to reduce the tax on the slaughter of cattle in the districts of Panama, Colon, and Bocas del Toro to meet the fiscal regulations established in the zone ceded to the United States, should such action be required.

* * * * * * *

5. Tax on Lotteries.

This tax is regulated in the manner established in law 9 of 1883 of the extinct sovereign State of Panama, in conformity with the contracts made with the company called The Lottery of Panama on November 12, 1883, and April 24, 1901.

6. Tax on Mother-of-Pearl Fisheries.

Licenses to fish with machinery for mother-of-pearl shell in the waters of the Republic shall cost $300 each year. Persons who apply for licenses to fish for mother-of-pearl shell shall give bond to the satisfaction of the treasurer-general of the Republic in the sum of $500 for guaranty that there shall be no destruction of the oyster beds.

Those persons who shall default in the payment of the above-mentioned tax shall suffer the loss of their fishing machines and accessories employed in the extraction of mother-of-pearl shell, and shall be fined a sum equal to four times the annual license tax.

7. Tax on Mines.

Mining taxes shall be as follows: application for mine, $10; title to mine, $25. Each claim to a mine must be accompanied by a receipt from the tax collector or the sum of the tax itself, otherwise the claim will not be noticed.

Annually the following taxes shall be imposed upon mines: mines of precious stones, $10 for each square kilometer [0.386 square mile] in extent, and fractions of square kilometers proportionately; alluvial mine, $10 for each 25 square kilometers [9.65 square miles] (portions not exceeding 5 square kilometers [1.93 square miles] shall pay $2, and in proportion for excess); mine composed of veins or lodes, $5 for each piece of property 600 meters long by 240 meters wide [1,969 by 787 feet]. Each mine composed of deposits and those in which strata are found shall pay a tax double the foregoing.

Right to a mine shall be lost if the tax is not paid promptly. The tax may be paid in advance for as many years as is desired. The owners of registered mines which have paid the established tax, and which are not in litigation, can secure the mine permanently by paying at one time a sum corresponding to the tax for twenty years. The mine tax begins from the day on which possession is taken.

* * * * * * *

11. Tax on Ballast Taken by Ships.

A tax of 50 cents a ton shall be paid on all ballast taken in ships from any part of the Republic, whatever the material. This tax must be paid immediately to the local agency of the treasury.

12. Light-House Dues.

Light-house dues, during the time the light-houses remain in operation, shall be imposed upon every steamship or sailing vessel, national or foreign, which enters or anchors in the ports of the Republic where there are light-houses, at the rate of 5 cents for each of the first 100 tons of register according to the ship's licenses and 2½ cents for every other ton of register. Steamships or sailing vessels employed in the coasting trade shall pay one-half of the above tax; ships of war and vessels belonging to concessionaire companies are exempt.

13. Consular Fees.

These fees are charged according to the tariff established by law 22, April 18, 1904, with the following modifications: Consuls-general, consuls, and vice-consuls shall require in favor of the nation, and enter upon their books, the following fees, which shall be paid at once by the person or corporation making application:

For certification of the four copies of each invoice which is presented, 1½ per cent on its total value in the same money. Consuls can only certify invoices upon which are entered packages bearing the same mark, consigned to one person or company, one shipper or agent, and to one place. For the certification of the four copies of the manifest, in which is specified the cargo carried by the steamer or sailing ship, $10 for the first hundred packages and $2 for the remaining hundreds of packages or fractions thereof. For viséing bills of health, issued by the authorities of the port of departure, $3. In no case may a consul certify an invoice or manifest, or any other ship's papers, after the date upon which a ship has left the port. Manifests on which are entered only articles of iron, steel, copper, zinc, wood, tiles, and the like shall pay only $10, whatever the amount of the cargo.

17. Export Duties.

Export duties are imposed as follows:

Precious metals, 2 per cent on the value as expressed in the certificate of smelting and assay; gold, coined or made into ornaments, 1 per cent on the insured value; crude minerals, $2 a ton.

IRON AND STEEL TRADE OF ENGLAND.

(*From United States Consul-General Guenther, Frankfort, Germany.*)

The London Daily Mail of July 21, 1904, commenting on the report of the tariff commission recently appointed to investigate the conditions of British trade, says:

> Though it has been known for some years that the condition of the great group of industries composing our iron and steel trades was far from satisfactory, few expected that the state of affairs disclosed by the prolonged and careful investigations of the tariff commission would be as dismal as they prove to be.
>
> From the vast mass of evidence collected in the report of the commission, which is to-day given to the public, the iron trade is shown to be moribund; the one and only hope, in the opinion of nearly every witness examined, is in protection.
>
> To this have we come at last. A generation ago Englishmen would have laughed had they been told that at the opening of the twentieth century the United Kingdom would be outdistanced as a producer of iron and steel by the United States or by Germany.
>
> Yet there is no disputing the figures produced by the commission. In a little over twenty years the following has been the advance in pig-iron production of England and her competitors:

Pig-iron production of England, Germany, United States, and France in 1881–1885 (average) and 1903.

Country.	Average 1881-1885.	1903.
	Tons.	*Tons.*
England	[a]8,100,000	8,810,000
Germany	3,340,000	9,860,000
United States	4,260,000	18,000,000
France	1,860,000	2,780,000

[a] This appeared in Consul-General Guenther's manuscript, doubtless by a typographic error, as 3,100,000 tons.

Thus in twenty years England has fallen from first place to third, and in a world of incessant progress she has stood almost still.

In steel she has done even worse. Her own output has only risen from 1,970,000 tons during the period 1881–1885 to 5,030,000 tons for 1903, while the German output in the same period has advanced from 1,070,000 to 8,700,000 tons, and the American from 1,650,000 to 15,000,000 tons. There is no explaining away these figures; they stand there a stumbling-block to the free trader and a warning to the British public that the primacy in the world of industry is passing away from the country which has espoused the doctrines of Mr. Cobden and Adam Smith and persisted in clinging to them in an age when the conditions of industry have totally changed.

Thus the verdict of the commission is established by facts:

"We find that the pig-iron industry of the United Kingdom is almost stationary, and all the principal districts of the United Kingdom where it is carried on are alike affected.

"And in the steel industry it is the same. While the steel requirements of the world are rapidly increasing, the steel industry of the United Kingdom is almost stationary, and the steel industries of the United States and Germany are rapidly progressing. There is small hope of any diminution of the foreign competition, which is taking from us one by one our markets and threatening us more and more at home and in our colonies."

There is a general consensus of opinion, states the commission's report, as to the severity and unfairness of foreign competition in our home market, and the rapid substitution of foreign for British made materials, and the loss of foreign markets, chiefly through the operation of tariffs and the growth of foreign competition in the colonies.

Foreign manufacturers have obtained large and growing home markets from which British products have been shut out by duties so high as to be practically prohibitive. Those countries have adopted every means in their power to exclude foreign competition, to improve their methods of production, and to secure absolute control of the home market.

They are now attacking the British home market, and by so doing they are diminishing the competitive power of the English manufacturer to push his trade in neutral markets. Not only this, but the evidence shows that we are only at the beginning of the era of foreign competition, that that competition is certain to become more and more severe, and that to maintain the British iron and steel industry in a state of efficiency strenuous efforts are absolutely necessary.

The stagnation of our industry and the development of foreign industries is to be ascribed mainly to foreign tariffs, as the commission reports that it can not be explained by any natural disadvantages under which England suffers relatively to Germany or the United States.

The real explanation of the collapse of free trade is to be found in the fact that the larger the production the cheaper the cost of production. The huge manufacturer, given intelligent management, can always undersell the small manufacturer; the country with the immense market can oust from competition the country with a small market.

As the British steel and iron works are driven by the loss of trade to work four or even three days a week their position grows steadily worse. On this head the evidence of the manufacturers is convincing. It is shown that in one typical instance the saving on the cost of steel when running nearly full time was 6s. [$1.44] a ton, compared with the cost when running three-quarters time. That is quite enough to make all the difference in keeping or losing a market.

The question of dumping is handled very fully and must be reserved for a second article. But the general effect of it, as shown by the evidence, is to produce a sense of extreme insecurity in England. The manufacturer never knows how or where he may be attacked, and can make no calculations looking far ahead. Business is reduced to mere speculation, and capital is ceasing to flow into the iron trade.

The British manufacturer is blamed by free-trade critics for not increasing his output and for not adopting the very latest machinery. This is the reply of the witnesses heard by the commission:

"With a protected market we should equip our factories and bring them up to date. We require some definite security that the outlay will be remunerative.

"Under the present law of rating of machinery, the more modern the equipment of one's works and the more one scraps effete machinery to introduce new plants, the heavier is the burden of rates.

"We have just spent a large sum on our extensions, but if we had had the experience that we have had the last four years we should not have done it. If we had the security of Germany we should have no hesitation.

"We are so alarmed and disheartened at the approaching foreign competition that we fear to spend money.

"We are deterred from putting in the up-to-date plant that is necessary because of the insecurity of trade. Capital has been soured because of the dumping of foreign materials.

"In England there is not the same security for capital as in Germany."

Here we have five different witnesses all agreed.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *July 23, 1904.*

SHEFFIELD WARES IN SOUTH AFRICA.

United States Consul Charles N. Daniels, Sheffield, England, sends the following correspondence from Johannesburg, South Africa, to the Sheffield Daily Telegraph of June 25, 1904:

Some few months ago I mentioned to several of the leading tool houses in Johannesburg that it was my intention to write a series of trade articles dealing with the reasons why Sheffield is losing her trade in South Africa. They were much interested in the idea, and have given me every assistance, so that any statements I may make with regard to prices and patterns may be relied upon implicitly, as they are written in collaboration with the principal buyers of these commodities in the Transvaal.

On the whole, the export trade of tools from Sheffield to South Africa is in a very satisfactory condition, yet in the future the competition from the United States and Germany will be much severer than it has been in the past, and if Sheffield is determined to maintain her preeminence, she must move with the times, and if possible get a little bit ahead. In these days of strenuous competition it is necessary to study more closely the requirements of the different markets, and it is still more necessary to bring out new patterns that are improvements upon the old designs of our fathers. A good tool of a new design will always create a market for itself. The Americans thoroughly realize this, as our manufacturers will discover to their cost in the near future.

I am not advocating the wholesale laying down of new machinery, as I consider that under this "free trade for the foreigners" system of ours, British manufacturers would be unwise to invest large amounts of capital in machinery to cater for a trade that is always insecure, inasmuch as the wholesale dumping of the surplus manufactures of foreign nations is continually disarranging the most carefully thought-out plans of English manufacturers. This very week that I am writing, the representative of a leading file firm in America is booking orders for files at 70 per cent, and 5 per cent off the Sheffield list. Whether this is the result of improved methods of manufacture, or whether it is dumping pure and simple, and is only for a short time, I can not say. I only know that the Sheffield file trade out here for some time to come will be very small. I admit that the American file is lighter than the Sheffield make, and consequently will not cost so much for material; but since the demand is for a cheap file, surely it is only common sense for the Sheffield manufacturers to make a light pattern, with prices in accordance. What chance have English representatives of obtaining orders against this cutthroat price? It is enough to make us throw up our English agencies in disgust and represent American firms.

Now, with regard to patterns in tools that have supplanted the Sheffield make, one of the chief and foremost is in the carpenter's hammer.

The American adz-eyed hammer has an enormous sale in South Africa. There are hundreds of grosses sold in the course of a year; I know one tool dealer in Johannesburg who buys more than £500 [$2,433] worth every year. There is nothing very difficult about the manufacture, yet the quantity of adz-eyed hammers turned out by Sheffield is infinitesimal. The specialty is the steel collar that stands out from the hammer head. In a dry country like the Transvaal the wood shafts shrink tremendously, and as a consequence the hammer head becomes loose. The steel collar, by doubling the length of hole in which the shaft is wedged, to a large extent overcomes this looseness. Yet this pattern, in turn, could be improved upon. By substituting an oval hole for the square one in the American make, the handle could be more securely fastened, and would be not so liable to break, and a new handle could be fitted in much easier when the old one was broken. I consider that the American pattern is very ugly; the only essential parts are the steel collar and the claw for pulling out nails; all the rest could be improved upon. Will some Sheffield firm take the matter up?

The old-fashioned wood square has had its day in South Africa. The American pattern, with a metal handle, is taking its place. Again, the reason for this is the extreme dryness of the climate. The ordinary plated square loses its truth owing to shrinkage. A fair quality square, with a malleable-iron handle, would sell well out here. There is a demand for this, as the American make is too expensive. Now a heavy, solid handle is not required; a light, neat pattern is what is wanted. If the brass plate on the ordinary square were fastened on with screws, as in the American makes, and also by one or two Sheffield houses, it would, to a large extent, overcome the objection to the plated square, though undoubtedly the metal square is the one with a future before it. To be perfectly honest, I must state that the American squares are not giving satisfaction, as they are very inferior in quality to the Sheffield makes. It will be entirely the fault of Sheffield if the Americans retain their trade in squares in the Transvaal.

Brace bits are another line in which Sheffield is losing ground day by day. The old-fashioned Gedge and Jennings bits are out of date. The bits that sell here are turned out of the solid steel, and are absolutely true. Several workmen have assured me that a forged bit, after being exposed for some time to the burning sun of South Africa, often becomes slightly twisted. I am not metallurgist enough to explain why, supposing that the statement is correct. The fact remains, however, that people here prefer the turned bits because they are exact to the one sixty-fourth part of an inch. A cheap screw bit, about 12 inches in length, would sell well, as the ordinary Sheffield bits are too short for mine work.

These remarks are intended to reach the small manufacturers of Sheffield, who have neither the opportunity nor the means to make these investigations for themselves. After all, the small manufacturers, who work themselves and take a pride in everything they turn out, are the backbone of the city, and I firmly believe that the reason why Sheffield is losing so much of her trade in South Africa is because they are not in touch with the African hardware dealers.

Taking into consideration the fact that many Sheffield tools are condemned simply because they are not quite suited to the requirements of the market, it appears to me that if Sheffield is to retain her trade here her manufacturers should know exactly what to make and the reasons why the tools should be made in that particular way. This being so, I consider it is eminently desirable that Sheffield should possess patterns of the special tools manufactured by America and Germany, which we ought to make, and which are capturing the market.

If any manufacturers' association in Sheffield will take the matter up, provide a room, and pay the small cost of the samples, I will gladly send the different patterns at cost price, together with the prices at which Germany and the States are selling, and also state why these patterns have supplanted the Sheffield makes—that is, explain exactly what each particular tool is used for, so that the manufacturers can understand clearly why the ordinary tools are not suitable for the special wants. The patterns would not cost more than £2 [$9.73] or £3 [$14.60], yet the trade in these special lines runs into many thousands of pounds yearly.

Such a collection of patterns from South Africa would, perhaps, be the nucleus of a musuem of tools and cutlery coming from all parts of the world, as doubtless once the collection was commenced it would be an easy matter to obtain from other countries the special tools sold there that Sheffield does not make.

I do not purpose sending home one single tool of English make. British manufacturers can fight among themselves for the trade they already possess without my assistance. But we should all combine against foreign competition and do our our utmost to drive it out of the Empire.

One thing, however, I must insist upon. If the Sheffield manufacturers fall in with my idea, and wish me to send the different patterns home, I must have a guaranty that they will not be shown to the public. This offer is only for the use of bona fide Sheffield manufacturers of these particular lines. I will not use my time and technical knowledge for the benefit of Germany, and there are too many German spies in Sheffield.

SUPREMACY IN OCEAN TRANSPORTATION.

(*From United States Consul Diederich, Bremen, Germany.*)

Several noteworthy events have taken place recently in steamship navigation that aptly illustrate the various policies adopted by leading companies at the present time for gaining the supremacy in ocean transportation. One of them has started and has now running on regular schedule on its trans-Atlantic line the largest ocean vessel afloat, and the other has again succeeded in breaking the record for speed and in establishing once more its claim of having the fleetest steamers in the world; while still another is bending all its energies to supply propelling machinery of an entirely new order, by means of which it hopes to outrival both of its old competitors.

SPEED RECORD.

The fast steamer Kaiser Wilhelm II, of the North German Lloyd Steamship Company, left New York for Bremen on June 14, passing Sandy Hook at 8.12 a. m. and Eddystone on June 20 at 1.10 a. m. She thus broke all former records and accomplished the remarkable feat of making 3,112 miles in five days eleven hours and fifty-eight minutes, the average speed being 23.58 miles an hour, the quickest time ever made by any steamer over this route. The best record made in one day during this trip was 564 miles, covered on June 18. Thus, once more, this German line shows that it knows the value of holding the first place for the fastest voyage across the Atlantic.

The following is the record for speed made at different times within the last few years by the four great German ocean flyers: Kaiser Wilhelm der Grosse (Lloyd), 23 knots; Kronprinz Wilhelm (Lloyd), 23.47 knots; Deutschland (Hamburg-American Line), 23.51 knots; Kaiser Wilhelm II (Lloyd), 23.58 knots.

SIZE RECORD.

A few weeks ago an immense steamer—in fact, the largest afloat—was started on her maiden trip from Liverpool to New York. It is the Baltic, of the White Star Line. This new queen of the ocean is fresh from the yards of Messrs. Harland and Wolff, at Belfast, and is 725 feet 9 inches long, 75 feet on the beam, and 49 feet deep. Besides her crew she has accommodations for 350 first-class passengers, 260 second class, and 2,400 people in the steerage. No care has been spared to make this big ship luxuriously comfortable, although she was built chiefly to carry a large amount of freight; in fact, she is a floating warehouse, her capacity exceeding 1,000,000 cubic feet or room for a cargo of about 28,000 tons. Her two sets of quadruple expansion engines require only about 250 tons of coal a day to generate about 15,000 horsepower, and to give her an average speed of about 17 knots. Like most of the White Star liners, the Baltic has twin screws, and is supplied with a double bottom, numerous water-tight compartments, and all the latest improvements known to shipbuilders.

This monster of the deep has nine decks, so that a person standing on the sun deck will be 88 feet above the keel; with the steamer at its deepest draft (33 feet) he will still be 55 feet above the water. It will be readily seen that this new steamship is simply the result of the ever-increasing international trade and travel. It was built to satisfy the demand for the safest, biggest, and easiest-going ocean vessel. It combines the convenience and luxury of the faster boats with the cargo facilities of the freight carriers. The number of persons who prefer a steady and slower to a speedier ship is growing. For this reason the White Star Line has considered the carrying capacity of their new vessel and the saving of expenses of prime importance. This is not a new departure with them, for this is the third mammoth steamer built and run on this principle; only this latest addition to their fleet represents the climax of their system.

It is interesting to compare this great British leviathan, the Baltic, dashing along in the North Atlantic lane, with other leading and popular steamers, and to note the progress made, step by step.

Dimensions and tonnage of important trans-Atlantic steamers.

Steamer.	Length.	Beam.	Depth in hold.	Registered tons.
	Feet.	*Feet.*	*Feet.*	
Campania (Cunard)	601	65.2	37.8	12,950
Lucania (Cunard)	601	65.2	37.8	12,950
Deutschland (Hamburg-American)	660.9	67.3	40.3	16,502
Oceanic (White Star)	685.7	68.3	44.5	17,294
Kaiser Wilhelm II (Lloyd)	678	72	44	19,360
Celtic (White Star)	680.9	75.3	44.1	20,904
Cedric (White Star)	680.9	75.3	44.1	21,085
Baltic (White Star)	725.9	75	49	24,000

COST OF RUNNING FAST AND SLOW STEAMERS.

The cost of running the Baltic and the Kaiser Wilhelm II can hardly be compared, but it is a remarkable fact that 17 knots an hour is a very much more economical speed than 23. In fact, the increase of expense with increase of speed is entirely out of proportion to the speed gained. While the Baltic on her load draft displaces 40,000 tons, and the Kaiser Wilhelm II only 26,000, the latter vessel costs a great deal more to run than the Baltic. To gain the extra speed over her slower rival, amounting to about 40 per cent, the German vessel requires a crew of about 600 men, or fully twice as many as the British steamer, and burns at least double the quantity of coal a day. Again, the Baltic can carry 28,000 tons of cargo and 3,000 passengers, while the Kaiser Wilhelm II carries comparatively little cargo and has accommodations for not quite 2,000 passengers. Thus the larger and slower boats on the one hand, and the lighter and faster ones on the other, offer advantages and disadvantages both to the owners and to the public. Steamship men of experience feel, however, that for the present at least the limit of size as well as of speed has been reached. But predictions of this nature usually prove of little value.

PROJECTED TURBINE STEAMERS.

The Baltic will never be a record breaker, but under normal conditions she will make good profit for her owners. However, it was not to be expected that public sentiment in England would calmly see the record for speed in ocean transportation go from the British to the German flag without making an effort to regain it. Already steps have been taken in that direction. As is well known, the Cunard company has undertaken to build two large steamers, which are also to be available as auxiliary cruisers whenever called upon. The Government is to pay a subsidy of $750,000 a year for these and to advance the money required for building them at the rate of 2¾ per cent, the loan to be secured by the ships of the Cunard fleet.

The question of propelling machinery was of prime importance. It was conceded from the start that the old motive power had reached its limit. The advocates of the turbine engine urged that it possessed advantages over the reciprocating engine in increasing speed, that the greater the speed the greater the advantage would be, and that at the same time much space would be saved and made available for passengers and cargo. A commission of experts examined the subject, and finally the award was made in favor of the turbine, and the contracts were signed. The new Cunard steamers will be larger and faster than the Kaiser Wilhelm II. They will be 760 feet long and 88 feet on the beam, and will therefore displace about 32,000 tons. They are expected to reach a speed of 25 knots.

In this connection it is exceedingly interesting to learn that only very recently the first merchant vessel with turbine engines, the Turbinia, crossed the Atlantic, arriving at Montreal from Newcastle, England. This new steamship is 260 feet long, of 4,000 horsepower, and when going at full speed her propellers make 700 revolutions a minute. It is reported that she did better than had been promised. She is not an ocean vessel, being built for the Canadian lake service, yet she was remarkably steady, in spite of rough weather during most of the voyage. There was no vibration whatever. In speed and general seaworthiness she fully came up to the predictions. Even in consumption of coal, about which there had been some doubt, she was found to be more economical than ships with the ordinary type of engine.

All this seems to sustain what many marine engineers are claiming, that the turbine engine will be in general use before many years.

HENRY W. DIEDERICH, *Consul.*

BREMEN, GERMANY, *July 22, 1904.*

AMERICA IN THE LEAD IN NICARAGUA.

In its issue of July 21, 1904, Export (the organ of the central union for commercial geography and for the advancement of German interests in foreign parts) has the following article in regard to American efforts in securing foreign markets:

> That the motto "Germany leads the world" is only a beautiful dream is sufficiently well known. The fulfilment of this dream grows more difficult with every year. This is now being discovered. We are now standing still in foreign parts. At home the great desire of moving forward that should characterize our people is vanishing.

I have no intention of discussing the higher forms of politics, but anyone who will cast his glance outside of the limits of the German Empire and will take an unprejudiced view of the different peoples can not but see that Germany is beginning to feel weak. Everywhere we are crawling and bending the knee, and yet in no part of the world are we regarded as favorites. Is this right? At present we are told that we are not able to play trumps because we have no fleet. Of course we need a strong fleet the more we rub up against foreigners in far-off lands, but did we not play another rôle twenty years ago with a much smaller fleet?

Let us glance at Nicaragua. The dominating position held by Germany ten years ago in that country is being slowly but irrevocably yielded up to the Americans, who, thanks to their bold, enterprising spirit, and thanks to their distinguished consular representation, are moving into the place once occupied by us. After the coffee crisis of 1896 had endangered Hamburg capital and had caused a great many losses, which were not unexpected, there has been an entire loss of spirit. This, too, in spite of the fact that the government of President Zelaya is not only firm but gives great promise for the future. The Americans, on the other hand, with great spirit, have in a few years conquered the entire country. They said to themselves that a land so blessed by nature must yield excellent results. They have poured capital into the country. They have sent out commissions to visit and to study it. They have established depots, and have sought and found capitalists who are willing to exploit the brilliant concessions made to them by the Nicaraguan Government. One concession gives them a monopoly in felling various kinds of valuable wood on the Mosquito coast. Another is for the exploiting of great mining interests in the north and northeast. A third gives a monopoly of the river transportation on the east coast. Through this the culture of bananas is placed in the hands of one company. The same syndicate lent the Government a million dollars. It has taken over the immense farm of the President on the Gulf of Fonseca, and has pledged itself to establish a new line of steamers between New Orleans and the Gulf ports of Nicaragua. The entire coast in these parts is already Americanized. Business houses in Bluefields, banana and caoutchouc plantations, and numberless mines are already in the hands of Americans. They are planning to buy great stretches of territory for ranches, which will yield enormous profits upon the opening of the Panama Canal. An American company is furnishing Managua with electric lines and is preparing to spread a net for the transmission of power over the entire country. Apart from the far-reaching and exploiting spirit of the Americans and their almost reckless investment of capital, a large part of their success is undoubtedly due to their consular representation, which undertook through personal and social relations with the leading people to make an impression, first of all on the President of the Nicaraguan Republic, and afterward on the leading people. They have removed the prejudices that existed against their country and have succeeded in obtaining concessions for their countrymen.

Our consular representation suffers from the lack of close contact with the Nicaraguan people. Up to the beginning of last year we had a consulate for Managua and Salvador. Only those who know the difficulties of communication between Nicaragua and Salvador will understand how inappropriate such an arrangement is. The consul is always traveling from one post to the other. We held meetings and begged the proper authorities in Germany to remedy this evil in order to free Nicaragua from its inevitable results. We asked for a consul who would be in an independent position and able to assist his countrymen. As yet we have received no answer. This has produced a bad feeling. The original arrangement still continues, except that Costa Rica has been substituted for Salvador, and in each of the two capitals a vice-consul has been appointed. We do not find that much has been gained by this arrangement, and are of opinion that enormous expenses for consular objects, including houses, offices, secretaries, and wages, are thrown away. The present condition is favorable neither to the Government here in Nicaragua nor to the vice-consuls themselves, for these officers are regarded only as half representatives of the German colony.

MARKET FOR AMERICAN SHOES IN SAXONY.

(From United States Consul Pike, Zittau, Germany.)

In making suggestions for trade in this district, I think it proper to note the extent of the market. The district comprises the extreme eastern portion of the Kingdom of Saxony. In a comparatively small territory there is a population of about 500,000 people. There is much wealth in this part of Saxony and an exceptionally prosperous condition among all classes.

I am surprised to find here so few American products, and yet imported goods from other countries are everywhere to be seen. I found that in a wealthy city of nearly 100,000 inhabitants, a few miles distant, with stores and shops that would do credit to any country, American shoes were practically unknown.

It is not in my province to criticise the domestic and imported footwear now in use in this market, but I believe that I am justified in saying that there is a good market here for American-made boots, shoes, slippers, rubbers, etc. Their styles and comfort in wearing will commend them. The favorable comments of those who have recently worn American-made shoes are a good advertisement. They say in effect that they would never wear any other kind. This indicates the favor with which American shoes are invariably received.

If manufacturers consider this market large enough to merit their attention, I shall be glad to furnish names and addresses of dealers in cities of this district and also in large cities near by.

It is a matter of great importance that all correspondence with business concerns be in the German language.

William J. Pike, *Consul.*

Zittau, Germany, *July 22, 1904.*

SEWAGE DISPOSAL AT HANLEY, ENGLAND.

(*From United States Consul Halstead, Birmingham, England.*)

After two years of experimentation, treating one-sixth of the dry-weather flow of sewage at Hanley on biological lines, Dr. George Reid, the Staffordshire medical officer of health, states in a report, of which the newspapers here print an abstract, that the work of this preliminary plant has so far exceeded his highest expectations that he is of the opinion that the Hanley corporation should proceed to lay down a plant of sufficient capacity to deal with all the sewage of the borough. The object of Doctor Reid's experiments was to determine whether septic tank treatment followed by single filtration would yield satisfactory results on the site of the present outfall works, which is somewhat near a populous part of the borough.

The regular method of disposal had been by chemical precipitation, followed by land treatment, and as the land was unsuitable and the area available inadequate, it became evident that the land treatment must be discarded. Two forms of distributors or feeders to filters were erected, one rectangular and the other circular, the first a mechanical distributor designed by Mr. Wilcox, of the firm of Wilcox & Raikes, engineers, Birmingham, the contractors for the plant, and the second or circular distributor designed by Mr. Scott-Moncreiff. The distributors fed quarter-acre bed filters, one rectangular, and the other circular, the depth of the filtering material in each case being 4 feet 6 inches. The filters were divided into sections differing in the size of filter particles, to determine what size filter particles were most efficient, the material used being broken saggers, a waste material plentiful in North Staffordshire. In the circular filter a constant and regular flow of 200 British gallons per superficial yard was maintained, but in the rectangular filter the delivery varied from 130 to 200 gallons, the mean being 162 gallons. From the tabulation of the analyses of sewage and effluents Doctor Reid found that in every case the degree of purification which had been effected was excellent, the work done surpassing that of any plant with which Doctor Reid had had experience and excelling that shown by published records from similar plants in regard to the degree of purification effected.

Treatment in the septic tank effected an absorption of 64 per cent and 62 per cent, respectively, of the organic ammonia and oxygen contained in the sewage, while in the filter effluents the percentages of these constituents that had been absorbed varied from 94 and 91 per cent in the case of the large grain section of the circular filter to 97 and 94 per cent in the case of the finest grain section, the last-named figures being practically the same in the corresponding sections of the two filters. As regards the degree of nitrification effected, the results were practically the same in all sections of both filters.

MARSHAL HALSTEAD, *Consul.*

BIRMINGHAM, ENGLAND, *July 18, 1904.*

NEW PROCESS OF EXTRACTING OLIVE OIL.

(*From United States Consul Smith, Leghorn, Italy.*)

Through the courtesy of Messrs. S. Rae & Co., of Leghorn, manufacturers and exporters of olive oil, I am enabled to submit the following report regarding a new process of extracting olive oil by chemical means. The olive growers of California appear, from what I can learn, to have taken up the business of olive-oil extraction seriously, and I hope that they will find something of value in the following description of the new process, which is translated from a report issued in pamphlet form by Prof. A. Funaro:

In the year 1899 a patent was taken out in France by A. Kuess (No. 291,559) for "A new method of extracting oil from olives and, in general, other vegetable oils, and also for dealing with the residues." The object aimed at was to extract all the oil present in a single operation, doing away altogether with the oil press and substituting a combined treatment by chemical agents and electricity. It was proposed to accomplish this result by crushing the olives in a mill, adding to the product an equal weight of a solution of alkaline carbonates at 3° B. and then heating the mixture to 60° C. (140° F.). An emulsion would result, and when a strong solution of hot alum was added to it precipitation of the cellular and resinous substances present would ensue, while the oily particles, being set free, would rise to the surface. An electric current passing through the tank during this operation accelerated the process, it was claimed, and improved the product. The latter was nearly colorless and fit for food purposes. The residues, though almost completely deprived of any fatty matter, could by further treatment with a solution of lime and soda be made to yield a soap stock fit for industrial purposes.

At Monastir, Tunis, the center of a great olive-growing district, a factory was specially constructed for the purpose of applying this process to the making of olive oil.

Although the instructions contained in the patent were strictly adhered to, no practical result could be obtained. The following year, at the same factory, this process was investigated by Prof. A. Funaro, in respect to the chemical part, and by Engineer C. Tanquerel, in regard to its mechanical aspect. After protracted trials had been made and many modifications introduced, success was obtained, so that during the oil season of 1901-2 some 5,000 kilograms [11,000 pounds] of olives were daily treated by this new method, with favorable results, in the opinion also of Professor Bertainchaud, director of the Central Chemical Laboratory of Tunis, who supervised the operations. For this modified process a patent was taken out in Italy in the year 1902, and also in Tunis, on behalf of the Société Générale des Huiles d'Olives du Sud Tunisien de Monastir.

The crushing of the olives in the mill is protracted until a uniform fine pulp is obtained. The pulp is heaped up and the virgin oil which flows from it is collected. The pulp is then passed again through the mill, and afterward wet with a very dilute solution of carbonate of soda. It is then transferred to a large tank containing alkaline lye and heated to a temperature not exceeding 40° C. (104° F.). If this were exceeded saponification would be brought about. The contents of the tank are kept in agitation by means of a jet of compressed air (French patent 527, January, 1892). At the end of six hours the contents are allowed to settle, the olive pits, washed quite clean, falling to the bottom, while all the fatty matter and lighter particles of the pulp rise to the surface in a kind of emulsion. The olive pits and alkaline liquor being then withdrawn from the bottom of the tank, there is added to this emulsion a cold dilute solution of alum. The compound is again agitated by means of compressed air, and an electrical current is passed through it during some hours. It is then allowed to settle for a few hours.

The resinous matter present, combining with the alum, is precipitated, carrying with it all the solids, while the oil rises to the surface nearly free from extraneous matter and is rendered quite bright and limpid by filtering. The aluminous compound, which, as has been stated, falls to the bottom of the tank, contains not more than 4 to 5 parts in 100, by weight, of fatty matter, after evaporation of moisture. This small percentage can be recovered by the sulphide process, or if the residuum be heated up, after the addition of soda, soap stock is obtained.

In the practical working of this process the only difficulties lie in finding out the most favorable conditions—the proper concentration of the solutions, the proper temperature and degree of alkalinity or acidity, all of which entail frequent tests.

The oil obtained is of a pale straw color and has hardly any odor. It neither congeals nor solidifies so readily as olive oils made in the usual manner. It is neutral, that is to say, free from acids, and remains so for a year or longer, even when exposed to the air. It is without the flavor of fruit, more or less marked, which characterizes olive oils made in the usual way. This peculiarity has not prevented approval of such oil in the markets of the north of France, though it is difficult to say whether it would meet with favor in Italy.

The following results were obtained during the period of experimentation with the new process. The olives treated had the following composition: fatty matter, 26.85 per cent; water, 39.75 per cent; cellular substance, 33.40 per cent. The yield of oil was 25.15 per cent. An additional 1 per cent of oil was recovered after a short interval from the tank in which the residue had been allowed to rest after the treatment described.

Similar olives treated in the customary manner by crushing and pressing gave the following results: oil obtained from the first and second pressings, 19.25 per cent; oil obtained from depositing tanks (1 per cent) and by washing (3.40 per cent), 4.40 per cent; total, 23.65 per cent. Similar trials conducted by Bertainchaud gave the following results: oil from the pressings, 22.60 per cent; washed oil, 1.20 per cent; total, 23.80 per cent.

Twenty-five and nine-tenths per cent of oil was obtained by the new process, which shows a superiority of 8 per cent in its favor.

A further advantage of the new process is the reduction in working expenses due to the elimination of presses and pumps and of mats and bags, while there is also a saving in labor, since by a suitable arrangement of the tanks and vessels used operations can be conducted almost automatically, the solutions being made to flow from one tank into the other as required. At Monastir, where electricity was the motive power, when treating 5,000 kilograms [11,000 pounds] of olives daily, 5 laborers and 1 mechanic were found adequate.

The neutral character of the oil renders it well suited for mixing with other edible oils, while the almost total absence of acids makes it particularly adapted for industrial purposes. Hence the new process appears likely to meet with favor.

It is not suggested that it will ever be adopted in localities where the finer qualities of olive oil are produced, as in Tuscany, Liguria, and Apulia, Italy, but in great centers of olive-oil production the advantages offered by this process should not be overlooked, as, for example, in Calabria and Sicily.

Even where the finest qualities of oil are produced, a combination of the older methods with this process might be resorted to with benefit. After the olives are pressed in the usual manner and the oil is collected, the residues could be dealt with by this new process, whereby practically all the oil still remaining in them would be recovered in a single operation.

In reference to the foregoing, Messrs. Rae & Co., whose opinion, as that of a firm extensively engaged for many years in the olive-oil business, is well worth consideration, make the following observations:

Samples have been submitted to us of olive oil obtained by this method in Tunis. We find that the oil has entirely lost the natural flavor of olive oil; it has acquired instead an unpleasant and, indeed, rather nauseous taste. While Tunis oil and all oils from olives grown in similar subtropical latitudes must of necessity rank low in the scale of quality, even when made with every care and from sound fruit, these samples show that the application of the new process will not introduce any improvement. Rather is it the other way.

The oil is, however, quite neutral; that is to say, almost entirely free from the natural acids present in olive oil made in the usual manner, by simply pressing the fruit. This quality may render the product of value for industrial purposes, but it is no recommendation in an olive oil intended for the table.

Professor Funaro himself perceives that this process would not lend itself to the production of the finest grades of olive oil, such as Tuscany is famed for, generally known under the denomination "Lucca oil." Olive oil of this description has a delicate flavor of its own, derived from the fruit. But the product obtained by means of the new process entirely loses these characteristics—a fact easily accounted for when it is considered that it entails the subjecting of the olive pulp to chemical reactions.

On the other hand, this process it appears may with advantage be applied to the olive residues; that is to say, to the residue of the pulp after the oil has been obtained by pressing. It is claimed that by it practically all of the oil remaining in the residue can be easily recovered at less cost and far more quickly than by the methods hitherto employed. Subject to these claims being verified, the new process might still prove advantageous to oil manufacturers, seeing that the residues as they leave the oil press still contain nearly 18 per cent of the total quantity of oil originally contained in the fruit, and a rapid and economical recovery of this oil is a matter of considerable importance.

JAS. A. SMITH, *Consul.*

LEGHORN, ITALY, *June 26, 1904.*

COASTING TRADE OF THE UNITED KINGDOM.

Export, a German paper devoted to commercial geography, in its issue of May 26, has the following article by Dr. Otto Becker:

England is discussing anew the question of protecting her shipping against foreign competition.

The commission appointed by Parliament in 1902, to investigate the matter of subventions for ships, pointed out that many countries forbid foreign ships to participate in their coasting trade, but that England does not, and that England is handicapped thereby. Some countries, as the United States, France, and Russia, prohibit foreign vessels from entering into trade with their colonies, while England does not, and this works additional injury to England.

The members of the commission were divided in their opinion as to whether England should prohibit foreign vessels from participating in British coasting trade. It was recognized that there were so few foreign ships engaged in this trade that it would not be advisable to call forth retaliatory measures by such a prohibition; but that, on the other hand, such measures by countries already forbidding foreign vessels to engage in their coasting trade should not be feared.

Sir Robert Giffen, an authority on shipping, advises that either foreign ships, and particularly those subsidized by foreign governments, be prohibited from engaging in the coasting trade of England and her colonies, or that such ships be made to conform to the British regulations relating to construction, equipment, inspection, etc., and that they pay for the privilege a sum equal to that received in the form of a subsidy from their own Government. It was also shown that Great Britain, with its great extent of coast line, would have nothing to fear if other countries did retaliate by prohibiting foreign vessels from entering into their coasting trade. The commission called attention to the fact that it might be a good plan to prohibit foreign vessels from entering into the British coasting trade in the same measure that foreign countries forbid British vessels from participating in their coasting trade.

There is also danger of retaliatory measures in the way of flag duties and tonnage dues more oppressive than under the present régime. It is believed, however, that the danger of retaliatory measures is lessened by the fact that foreign countries are not in a position to make up a loss of British ships, while this is not the case with England.

The question of limiting the British coasting trade to British vessels is closely connected with the present fiscal controversy. Mr. Chamberlain has often pointed out that it is a poor policy to open the coasting trade of England to other countries when the same courtesy is not extended to England.

For a comprehensive survey of the field it is necessary to study the statistics of the subject. It must be explained that only ships returning with cargoes are considered, not ships in ballast, except where it is otherwise noted. It should also be stated, in connection with the coasting trade in the narrow sense, that each ship figures doubly in the returns, in going out and coming in, and only half of each return should be taken.

The following figures are taken from the British official sources:

I. COASTING TRADE IN THE NARROW SENSE.

(1) Coasting trade between British ports, outgoing and incoming, exclusive of vessels in ballast, amounted in 1903 to 62,575,535 tons, of which 62,200,558 tons, or 99.4 per cent, were carried under the British flag, and 375,453 tons, or 0.6 per cent, were carried under foreign flags. This, according to the rule laid down above, would mean a total of 31,287,767 tons, of which 31,100,041 tons went under the British flag and only 187,488 tons under foreign flags. About one-half of this amount (79,231 tons) went under the German flag and the remainder under the Swedish and Norwegian flags.

(2) Coastwise trade of Cape Colony, Zanzibar, British India, and Canada for 1903: The tonnage entered, freight and ballast, amounted to 32,841,000 tons, of which the British ships carried 31,517,700 tons and foreign vessels 1,271,000 tons, which latter amount the British could secure by forbidding foreign vessels to participate in British coasting trade.

II. COASTWISE TRADE IN THE BROAD SENSE.

(1) Trade between the United Kingdom and her colonies amounted in 1903 to 12,290,092 tons, of which British ships carried 11,172,065 tons, or 90.9 per cent, and foreign ships 1,118,027 tons, or 9.1 per cent. Of this latter amount Norway had 531,000 tons and Germany 267,000 tons.

(2) The trade of the colonies among themselves amounted to 24,754,000 tons (lading and ballast), of which Great Britain's share was 21,444,000 and that of foreign countries 3,310,000 tons. It is not known how much of this represents ballast. The whole amount, 3,310,000 tons, would not revert to England if her shipping were closed to foreign vessels.

The total tonnage affected by England's prohibition would be 187,488 plus 1,118,027 plus 3.310,000, a total of 4,615,515, divided mostly between Germany and Sweden and Norway.

On the other hand, England's participation in the coasting trade of other nations was as follows: France, 142,120 tons; Germany, 65,323 tons; Holland, 6,846 tons; Denmark, 8,000 tons; United States, 122,015 tons.

There are no figures for Portugal's share in Great Britain's shipping. The total British participation in foreign shipping with lading was 3,339,772 tons. It would seem, therefore, that Great Britain would lose by retaliatory measures 500,000 to 600,000 tons.

In their relations in the existing trade Germany and England are on very nearly equal terms. The German flag covered, during the year 1903, 79,231 tons borne in ships engaged in England's coasting trade, while the British flag covered 65,323 tons in ships engaged in trade along the coast of Germany. There is another side to this problem, however—the one touching British trade with British colonies. According to British statistics, German ships carried 267,000 tons of goods from Great Britain to her colonies. Unfortunately, statistics covering the amount of goods carried in German ships from one British colonial port to another are not at hand. Without doubt, however, German interests in British trade are much greater than those of Great Britain in German trade, and Germany's losses consequently will be correspondingly greater in the event of retaliation taking the place of reciprocity.

Like the great commercial and economic problems dividing and distracting the English people at the present time and occupying the Government's attention, the question of restricting the existing trade must be regarded as yet unsolved. It is too early in the day to talk yet of England's return to a system of protective tariffs.

The conviction is felt by many great statesmen that once a step has been taken toward increasing the cost of food products in giving protection to domestic industries it will no longer be possible to pause. It is hard to think of England undertaking to exclude from her coast trade a country like Germany, whose coasting trade has been opened to British ships. Of course, it is possible that England might, in discussions preliminary to a treaty of reciprocity with Germany, use the possibility of such measures as a threat to secure her own interests. Such a threat should not be taken too seriously, for England is not yet resolved to exclude foreign flags from her coasts.

ECONOMIC CONDITION OF SPAIN.

(*From United States Consul-General Guenther, Frankfort, Germany.*)

"The economic condition of Spain," says the German consul-general at Barcelona, "is much improved, and the country has recovered from the crisis brought on by the war with the United States in 1898. The recovery was much assisted by the increased demand for goods from Spain's lost colonies, as the war had interfered with receiving supplies. Another stimulant was given by the return of many colonial capitalists, who settled in Spain and invested their money there, thereby giving an impetus to trade, finance, and internal enterprises.

"The foreign trade of Spain in 1903 amounted to $337,634,200—imports, $172,735,000; exports, $164,899,200. The loss of the colonies has induced the Spanish people to give their attention to home improvement and enterprises, and a new era has commenced. Much, however, remains to be done in improving the economic condition by exploiting the rich natural resources of the country, establishing better means of communication, placing the finances in order, reducing the heavy taxation, etc.

"Spain has a productive soil and could raise a much larger quantity of food stuffs than is required for home consumption. Instead of importing food stuffs, cattle, tobacco, coal, etc., Spain might export these articles.

"Last year Spain paid for imported coal $12,416,269, while her coal deposits are scarcely touched. Her extensive coast is rich in fish, yet $5,790,000 were spent last year for imported fish."

The Germans are very active in canvassing Spanish markets, and German capitalists and promoters are alive to the exploiting opportunities which Spain's rich natural resources offer.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *July 18, 1904.*

NATIONAL EXPANSION AND CONCENTRATION.

(*From United States Consul-General Guenther, Frankfort, Germany.*)

Prof. Karl M. Lambrecht, of the University of Leipzig, has recently published an essay on the above subject in which he presents some original views. He says that heretofore it has been generally held that a nation expanding by acquiring colonies and foreign territory with foreign tribes and populations is lessening its inherent compactness and strength, as by so doing not only does it lose that part of its home population which emigrates to settle the new territories, but these new branches will eventually part from the parent stem.

The professor maintains that this belief is erroneous; that a nation, to become great, requires space and expansion. Though the new territories and their populations will, in the course of their development, owing to geographical and other causes, present features and traits of character somewhat different from those of the mother country, nevertheless the nation will gain in strength and world influence.

Professor Lambrecht, in support of his theory, points to England and the United States, they having by their expansive movements brought about a centralization and unification of various countries and peoples, increasing immensely thereby their inherent strength and their power as world motors, making the English language the chief method of communication of the globe and the representative of the world's progressiveness. In the exposition of his views the professor calls attention specifically and at length to the development of the United States and exclaims: "Has the immense territorial expansion of the great Republic weakened or suppressed its political life? By no means; on the contrary, each State or Territory added or annexed has added nutrition and has given a higher plane to the nation's political life."

The concluding passage of the professor's essay advises his countrymen to emulate the example given by the United States and England, and he indulges in the hope that Germany will use all means in order to obtain a necessary amount of sunlit space, that is, a good slice of foreign territory for purposes of expansion and centralization as elucidated in his essay.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *July 16, 1904.*

EXPORTS OF ITALIAN FURNITURE.

According to Export, a leading German commercial paper, a superficial view of Italy's furniture factories reveals the fact that the work of former years was of an artistic rather than of an industrial character. Recently Italian furniture making has been transformed into a trade or handiwork. Much of the raw material employed in Italy's furniture factories, particularly the finer and more expensive kinds of woods, are imported. The furniture when finished is shipped to all parts of the world, particularly to Switzerland, Hungary, England, the Orient, the United States, and South America.

During the five years 1898-1902 Switzerland, Austria-Hungary, and Germany took the amounts (in centners of 110 pounds) indicated:

Exports of Italian furniture to Switzerland, Austria-Hungary, and Germany, 1898-1902.

Year.	Switzerland.	Austria-Hungary.	Germany.
	Centners.	*Centners.*	*Centners.*
1898	2,985	2,584	1,129
1899	3,014	2,785	1,584
1900	2,328	2,501	1,447
1901	2,333	1,892	1,160
1902	2,323	2,311	1,436

The exports to Germany would be much larger were it not for the Empire's carefully adjusted protective tariffs; this, too, in spite of the fact that Germany produces some very artistic forms of furniture. The foreign field outside of Europe is large and important. Here Egypt and the United States play an important part, and Argentina, Brazil, and Mexico are increasing their purchases every year. The sales consist largely of the finer forms, those based upon classical and particularly Parisian models. Some concerns have gone over entirely to the manufacture of only the higher artistic grades. These have departments in their factories for carving, artistic cabinetmaking, gilding, decorating, upholstering, etc. The following table shows the exports to the United States and to Egypt:

Exports of Italian furniture to Egypt and the United States, 1898-1902.

Year.	Egypt.	United States.
	Centners.	*Centners.*
1898	2,075	795
1899	2,378	1,209
1900	2,387	1,753
1901	2,363	1,621
1902	2,327	1,678

German writers express the opinion that German manufacturers of the finer or so-called classical forms of furniture will find it practically impossible to compete with the Italian manufacturers in foreign fields. They do not assign the reason. It can hardly be cheaper labor. Their opinion must be based on belief in the Italian's ability to make more of the classical forms than can his German rival, for he is more familiar with the art side of the forms, and has had a longer and, on the whole, better training in those forms. While the German was developing a distinctively German style of furniture, the Italian confined himself to the classical.

The exports to South America, while not very large thus far, are increasing so fast that they give great promise for the future and considerable satisfaction even now. The following table tells the story of the exports of Italian furniture to ports of South America and Mexico in recent years:

Exports of Italian furniture to Argentina, Brazil, and Mexico, 1898-1902.

Year.	Argentina.	Brazil.	Mexico.
	Centners.	*Centners.*	*Centners.*
1898	362	189	....
1899	492	252	57
1900	638	103	340
1901	510	156	46
1902	688	34	74

The figures for 1903 and 1904 are not available, but everything indicates a steady and rapid increase.

GERMAN TRADE WITH SPAIN.

According to a report made by the German consul-general at Barcelona, and published in the Deutsche Industrie Zeitung (German Industrial Times), Spain is beginning to buy large quantities of half-finished goods, raw materials, and machinery from Germany. In the trade lists of Spain Great Britain leads, followed by France. For a time the United States was third, but was beaten by Germany in 1902. During that year the German gain in the trade with Spain surpassed that of all other countries. It was noticeable in both imports and exports. Thus, the commercial relations between the two countries show the very best and healthiest conditions—those of real reciprocity.

That Germany is able to gain Spanish trade in spite of Spain's high tariffs, the purpose of which is largely protective, in spite of unfavorable rates of exchange of money, and in spite of the remarkable development in Spain's own industries, is because Spain is unable to go on without foreign aid, and is forced to buy half-manufactured goods, machines, and raw materials abroad. Germany is in a position to supply most of the articles needed, particularly chemicals, yarns, leathers, tools, and machines. Thus, when Spain is able to increase her trade with the Latin-American countries, Germany may look forward to a still greater increase in her Spanish trade.

The exposition at Düsseldorf has had a remarkably good effect in extending the trade relations between Germany and Spain. Hundreds of Spaniards were at the exposition. The improved trade relations between the two countries are manifested in many ways, notably in the increase of representatives of German houses in the exposition of German goods opened in Barcelona by the firm of David Taner and Company, of that city, the object of which is to still further increase the importation of German products into Spain by obtaining orders for the supply of city and communal governments. The exposition has already helped along these lines. It aims also to still further increase the importations of German coal, to help in the foundation of German banks, and also to open a branch of a large German bureau of information—that of Shimmelpfeng. All of these things will materially aid German commerce.

A large advance will be made if Germany is able to take advantage of the post-package system, so successfully operating in connection with exports from France to Spain. Goods worth nearly $3,000,000 are going annually by post from French to Spanish cities. A recent regulation of the Spanish post-office permits packages to be sent by post into Spain weighing 5 kilograms [11 pounds], and also permits these packages to be examined for customs duties on the frontiers. The consul urges his countrymen to take advantage of this regulation by shipping goods up to 11 pounds via Cerbére, on the frontier, with the notation "en gare," or "for export to Spain," and to secure the services of a shipper in Cerbére who, for a small commission, will be glad to look after the goods till they are forwarded to their Spanish destination. The charge made for work of this kind is from 22 to 42 cents a package, a very slight sum when the goods being sent are of high grade. The smaller amount is charged for packages destined for Madrid, the larger covers a package for any part of the Kingdom.

The consul calls attention to the dangers and losses due to carelessness in sending goods by post into Spain before the receiver has been written to in regard to them.

SAVINGS AMONG THE GERMANS.

According to the Deutsche Industrie Zeitung (German Industrial Times) of July 29, 1904, the savings banks of Prussia show a remarkable increase of deposits since the year 1887. In round numbers they were as follows:

Deposits in German savings banks.

1887	$636,000,000	1895	$1,035,000,000
1888	687,000,000	1900	1,367,000,000
1889	739,000,000	1902	1,601,000,000
1890	781,000,000		

What is true of Prussia is largely true of all parts of the Empire. During periods of prosperity the savings of the whole country approach the Prussian average. In some parts, such as Saxony, they may pass beyond those of Prussia, but never to any very great extent.

FOREIGN MARKETS FOR AMERICAN COTTON GOODS.[a]

(*From United States Consul-General Skinner, Marseille, France.*)

My information and observation encourage the belief that the American trade in cotton goods may be greatly extended throughout the Mediterranean, Red Sea, and Persian Gulf regions. Although the American cotton trade in these markets is now considerable, many of the consuming regions are not reached at all, and the business is limited elsewhere to the operations of a few highly favored houses, whose buyers have established themselves in New York.

The general attitude of the American cotton manufacturers and their selling agents has been unfavorable to the development of the export trade, because of their insistence that their goods be purchased in the United States through exporting brokers, who attend to all the details of shipping and of exchange. In short, American cotton manufacturers do not seem to be organized to do business directly in the consuming markets; they employ no foreign agents, and they have at various times discouraged possible buyers abroad who have initiated correspondence in the hope of obtaining cottons for export in the United States.

The inevitable consequence of this situation is that, aside from a Red Sea trade in unbleached cotton sheetings, our exports to the regions mentioned are exceedingly limited. German and Italian commercial travelers seek the consuming markets, satisfying them to a considerable extent, and in many cases the large buying houses have agencies in Manchester, where their requirements are catered to by British manufacturers. A few important firms buy in New York what they can not obtain in Manchester, and their demands constitute our export trade in the near east.

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[a] At the request of the New England Cotton Manufacturers' Association, a circular letter was mailed on April 7, 1904, to our consuls in the various countries, instructing them to report upon the possible markets for American cotton goods in their respective districts. The answers to this circular will be published as a volume of Special Consular Reports. This report of Consul-General Skinner was prepared in answer to the circular, but as it contains information of immediate interest to our cotton factors it is thought best to print it at once.

Mr. C. I. Zeytoon, of Bushire, Persian Gulf, said to me the other day:

> Our English furnishers have been unable thus far to produce a cotton cloth like your unbleached American sheeting, so popular in the Persian Gulf. Therefore these sheetings are bought in the United States.

Mr. Zeytoon was at that moment in Marseille, on his way to Manchester, where his buying house is located. He buys large quantities of gray goods, printed goods, mulls, and T-cloths. This gentleman has never seen an American commercial traveler in Bushire, nor has he ever heard of any American cotton firm, yet he told me that he would be disposed to buy sheetings and T-cloths in large quantities in the United States if he could get into contact with the principal firms and make reasonable terms. The T-cloths are supplied wholly from Manchester at present. Mr. Zeytoon alone could give an order for 30,000 pieces of these goods, each piece 96 yards long, 31 inches wide, and weighing 28 pounds. The pieces are packed in ironed bales of two trusses, each truss containing six pieces. The goods, upon arrival in Persia, are dyed blue by the natives, but if they could be purchased already dyed with indigo they would be preferred in that condition. The Manchester dyed cloths have been unsatisfactory, as indigo dye is not used in Great Britain. If Mr. Zeytoon can obtain these materials in the United States he will then be glad to suggest other lines, notably of printed goods.

From Bagdad, Messrs. Dumas, Guieu & Co. write to me as follows:

> Our Mr. Dumas has seen at Bagdad importations of cotton sheetings, cheap fabrics, and cotton yarn of American origin. Can you inform us where the center of manufacture of these articles can be found?

These gentlemen refer as to their standing to the Credit Lyonnais, the Comptoir National d'Escompte, and Chartered Bank of India, Australia, and Canada, of London.

So long ago as 1902, Messrs. Homsy & Fils, of Marseille, informed me that they were large buyers of cotton yarn for the Persian Gulf, which they were then purchasing at Manchester through a London house.

In my lately published reports regarding Abyssinia[a] I have shown that American trade is limited to a class of cotton sheetings, and that responsible firms are not only willing but eager to extend this trade and to buy quantities of other classes of cotton goods if our manufacturers will only take the pains to get into touch with them and to quote them c. i. f. prices. I have before me a letter from a private correspondent in Abyssinia, who says:

> At this moment a German commercial movement manifests itself, and the repeated visits of the Commercial Mission announces it as serious. We must admit the superiority of these people as commercial travelers. . . . The son of Naba Aboubaker said to me the other day: "Since the American sheetings are so reasonable in America, why does no American wish to come here to sell to us? A great fortune would be made quickly." In this country, where the population demand only tangible things, it would be worth more than all the expositions in foreign lands if we had right here a simple supply house.

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[a] Daily Consular Reports, Nos. 1898 and 1940. Page 18 of the latter contains detailed description of cotton goods required in Abyssinia.

Our consul at Aden reports that the imports of cotton goods at Aden during the twelve months ended March 31, 1903, amounted to $2,977,553, of which the American share was $1,820,434. No effort was made to obtain the classes of trade represented by the difference between these sums. We were satisfied with what we had. Nor did we endeavor to extend the demand already existing by any systematic effort to increase consumption through the elimination of middlemen's profits.

Our Abyssinian trade is controlled by two foreign firms, Benighn Menaheim, of Aden, and Livierato Frères, of Marseille. Other Abyssinian firms are obliged to buy through these concerns (their competitors) or do without the goods. As these two firms are principally buyers of raw products, chiefly coffee, they hold the exchange value of the cottons up at excessive figures, to the great loss of American manufacturers and of Abyssinian consumers, who would otherwise materially increase their orders. A few years ago Livierato Frères had a Government monopoly of the right to import cotton sheetings into Abyssinia, but the contract has been abrogated and is not likely ever to be renewed. On this subject, Ohannes Assadourian, an honest and reliable merchant, writes to me from Adis-Abeba:

> The American manufacturers have succeeded to such an extent that it is difficult to compete with them with goods from other countries. Unfortunately, however, these goods pass through the hands of big people in Aden, who have their representatives in these countries, and we who are in direct touch with the consumers can not have any of them unless we pay high prices, which, of course, are not the manufacturers' prices, being augmented by profits and commissions. For this reason we can not do any business in articles thus monopolized by these big people.

Messrs. Goolamally M. Mohamedally & Co., of Harar, one of the most active and wealthy firms in Ethiopia, are energetically seeking to buy sheetings direct, and would be glad to procure other cotton goods also. These sheetings must be quoted c. i. f., Jibuti, in hooped bales of 25 pieces, each piece 30 yards long, 37 inches wide, and weighing 9 pounds.

In the Mediterranean, Egypt, Tripoli, Tunis, Algeria, and Morocco require cotton goods, and would buy them in the United States if they were offered upon fair terms. Mr. G. Vadala, of Tripoli, writes to me, saying:

> Will you kindly note that in the Tripolitain we are likewise importers of large quantities of cotton sheetings, of Manchester manufacture, however, as no attempt has yet been made to import into this country similar articles of American production. I permit myself to ask you, therefore, to indicate to me some American houses to whom I might address myself upon this subject. I should be greatly obliged for any information, and trust that practical results will flow therefrom.

In Oran, Algeria, Messrs. T. & D. Hassan, 40 Rue de la Revolution, are similarly desirous of obtaining American connections.

Perhaps the most promising Mediterranean market is that of Melilla, Morocco. Within a month I shall be able to forward to the Department samples and names of buyers. At this moment I can only say that Melilla takes 60 tons a month of Manchester cotton goods, packed in pressed bales weighing 200 kilograms [440 pounds] each. The bales are wrapped in waterproof cloth.

While it is much simpler to sell goods for cash in New York, I am convinced not only that our export trade can be extended by seeking direct connections, but that our present trade is menaced by continued indifference to the consuming markets. Through bills of lading may be obtained from New York to all the points I have mentioned, and while the banking facilities are usually poor and expensive, it is nevertheless quite possible to arrange for payments by the exercise of patience and effort.

ROBERT P. SKINNER, *Consul-General.*

MARSEILLE, FRANCE, *July 15, 1904.*

COMMERCIAL TREATIES AND THE NEW TARIFF LAW OF GERMANY.

(*From United States Consul-General Mason, Berlin, Germany.*)

The treaty of commerce between Russia and Germany, which has been in negotiation during the past year, was signed at Berlin on the afternoon of July 28 by the imperial chancellor, Count von Bülow, and Mr. Von Witte, president of the ministerial committee of Russia.

In view of the peculiar and highly important commercial relations existing between the two countries, the negotiation of this treaty presented unusual difficulties. Russia, on the one hand, insisted upon favorable rates for her wheat, rye, timber, cattle, horses, poultry, and eggs, all of which products the German Agrarians, in whose interest the tariff of December, 1902, was enacted, are interested in excluding or handicapping with high rates of duty. On the other hand, German industrial interests demand favorable terms of import into Russia for machinery, iron, steel, paper, chemicals, textiles, and various other articles which Russian manufacturers are striving under many difficulties to produce, and which are therefore especially exposed to competition from abroad.

For these and other reasons the compact with Russia has been recognized from the first as probably the most difficult of all the treaties that would have to be negotiated under the new tariff, and its completion is looked upon here as the beginning of the final chapter of negotiations which will end with the putting into effect of the new schedules that will affect vitally many articles of import to this country.

As to what the newly concluded Russo-German treaty actually provides, very little is yet disclosed. Its principal provisions will presumably be kept secret until Germany's treaties with Austria-Hungary, France, Italy, and Switzerland have all been negotiated. It is understood, however, that the duration of the compact is ten years, and that the demands of the German Agrarians have in general been consented to, all the more readily, it is assumed, for the reason that in view of the present conditions in Russia the need of foreign markets for her surplus agricultural products is less pressing than hitherto. In effect, Russia has, according to all but official announcement, agreed to the minimal duty schedule for cereals, as specified in paragraph 1 of the new German tariff act, under which the lowest permitted duties on imported cereals will be $1.19 a double centner (100 kilograms, or 220 pounds) for rye and oats, $1.31 for wheat, and 95 cents for barley.

It is felt here that the conclusion of the agreement with Russia will strengthen the position of Germany in its negotiations with Austria, which have likewise involved especial difficulties. The treaties with Italy and Belgium are practically finished. A strong effort will be made to complete the conventions with other countries in such time that they may all be laid before the Reichstag at its coming session, which will begin in November. The subsequent proceedings are thus forecast by the National Zeitung, a leading journal of enlightened opinion on governmental affairs. Speaking of the conclusion of the Russian treaty and the general situation thereby created, the Zeitung, in its issue of July 30, says:

> The one logical possibility appears to be that the treaty can not become operative before January 1, 1906. First, the negotiations with other leading nations must be carried so far that the publication of the treaties already completed can be made without indiscretion. Then the Russian treaty will come before the Reichstag during the late autumn, and at best can be ratified so that on New Year's Day, 1905, the one year's notice of the denunciation of the present treaty can be made, at the end of which period the treaty can first take practical effect.

Thus, if no unexpected obstacle should be encountered, it is expected that the new commercial treaties and the tariff law of December 25, 1902, will simultaneously enter into effect at or about the beginning of 1906.

FRANK H. MASON, *Consul-General.*

BERLIN, GERMANY, *August 1, 1904.*

ENGINEERING AND TRADE OPPORTUNITIES.

(*From United States Consul Warner, Leipzig, Germany.*)

Air motors in Denmark.—The Hasseris Villakvarter Waterworks Company of Aalborg, Denmark, is reported to be in the market as a purchaser of air motors. Detailed information may be obtained from C. Ravn, Villakvarter, Aalborg, Denmark.

Canal at St. Petersburg.—The city authorities of St. Petersburg, Russia, will in the near future award a contract for the building of a canal from the Neva River to Lake Onega, and thence to the White Sea. Detailed information may be obtained by applying to the above-mentioned officials.

Dock works in Brazil.—The concession for building docks at Victoria, Espirito Santo State, Brazil, which was awarded the Companhia Brazileira Torrens, has been assigned to the Victoria and Diamantina Railway Company of Victoria. This work, which will embrace the building of 3,500 feet of wharfage, and of warehouses, electric cranes, and an iron bridge, is to be commenced in the near future.

BRAINARD H. WARNER, JR., *Consul.*

LEIPZIG, GERMANY, *July 23, 1904.*

SHORT MAIZE CROP IN ROUMANIA.

(*From United States Minister Jackson, Sinaia, Roumania.*)

It is at present anticipated that the crops in Roumania and Hungary will be poor, and that the maize crop in particular will be almost a total failure. In consequence the price of maize has gone up, and it was feared that this increase might be followed by the sale of the whole crop, as well as all that remains from last year, and that much suffering among the peasants would result. This led to the prohibition of the exportation of maize.

In conversation this morning with Mr. Bratiano, the minister for foreign affairs, I learned that it is the present intention of the existing

Government to maintain this prohibition, at least until after the harvest is over and the exact situation becomes clear, and until suitable provision is made for the retention in Roumania of a sufficient quantity of maize to prevent a famine. Mr. Bratiano said that this time the Government is on its guard and that there will be no repetition of the events of 1899. In commercial circles, however, considerable opposition to this prohibition has already been shown, and as the opponents of the Government have given evidence of an intention to make the question one of politics, it is impossible to foretell the duration of the prohibition.

In any event it is probable that a market for maize will be opened in northern Italy. Large quantities of that grain are shipped from Kustendji and the Danubian ports to Trieste and Venice every year, and the Italian minister here has already notified his Government that this year the usual supply must be obtained from other sources.

JOHN B. JACKSON, *Minister.*

SINAIA, ROUMANIA, *August 4, 1904.*

CHILEAN IMPORTS OF MACHINERY.

According to Export of August 4, 1904, the organ of the Central Union for Commercial Geography, published in Berlin, Germany, Chile has been importing large quantities of machines, tools, implements, and apparatus. During the years 1901 and 1902, the last years for which figures are furnished, the imports were as follows:

Imports of machinery, etc., into Chile during 1901 and 1902.

Source.	1901	1902
Germany	$1,311,595	$1,998,208
Great Britain	1,034,757	1,728,017
United States	924,658	1,492,780
France	177,866	156,138
Italy	32,138	15,320
Belgium	29,609	82,756
Spain	3,876	5,415
Switzerland	433	1,867
Holland	....	4,044

The increase in the machinery imports of 1902 is attributed largely to locomotives and mining machinery. Many of the mining machines and implements were bought for the saltpeter mines owned or controlled by Germans. The only very great increase in imports into Chile during the year 1902 were those of machinery.

GERMAN TRADE CONDITIONS.

PRUSSIA'S PROPOSED PURCHASE OF COAL MINES.

According to L'Économiste Européen, a leading French economic paper, the German world is very much exercised over the fact that the Prussian government has offered to purchase certain coal mines in Westphalia. The government officials assign as a reason for Prussia's act the desire to secure all the coal needed on her railroads. The price to be paid for the mines (the Hibernia) is $12,733,000. The arrangement of sale gives $8 of Prussian consolidated shares for every $3 nominal value of Hibernia's shares. The benefits accruing to stockholders in 1904 are to stand to their credit and will be paid in case the sale is effected. Thus the government gives $33,954,444 of its 3-per-cent consolidated bonds for $12,733,000 of a well-known stock. The reason is found in the fact that the stock of the Hibernia mines was quoted recently on the Empire's exchange at 247 per cent. Once, in 1900, it went as high as 260 per cent. The last dividends paid to shareholders were 11 per cent, and since 1897 dividends have ranged between 10 and 15 per cent. The government is sure that there will be gain for all parties to the transaction. The State gets a mine that pays 11 per cent now, and is likely to pay more; the shareholders get the equivalent of what they surrender and a guaranty of good interest in perpetuity.

The Berlin Tageblatt expresses the opinion that the Prussian government was suddenly moved to take the step by the fear that a fusion was imminent between the big mine owners of the Empire. The State, which is one of the best customers of the mines, would, in case of such a combination, be placed in a dependent position. To escape subjection of this kind it concluded to buy. Its choice fell upon the Hibernia mines because their owners had made no overtures to others favoring a combination.

Prussia's estimated consumption of coal in her railroads and ships—that is, the government's consumption—amounted in 1904 to 8,000,000 tons, valued at $18,564,000. In 1903 the output of the Hibernia mines was 3,738,840 tons, or nearly one-half of Prussia's annual demand. If the output of the Blumenthal mine, recently acquired by the owners of the Hibernia, be added, the total output in 1904 becomes 5,050,600 tons. The Economiste adds that the owners of the Hibernia did not deem Prussia's offers sufficiently large, in view of the actual value of the mines and of their possibilities. A meeting of stockholders has been called for August 7, for the purpose of accepting or rejecting the terms. In Prussia's official papers many voices are raised against the purchase, pointing out that the terms offer too many advantages to the stockholders and too few to the State. Among those intimately or directly interested the opinion prevails that Prussia gains most, the stockholders least. We learn that the Disconto Gesellschaft, the Deutsche Bank, the Darmstädter Bank, the Handelsgesellschaft, and the house of Bleichroeder have written to their clients offering to represent shareholders at the meeting of August 7, for the purpose of voting against the government's proposition. The public interest in this matter has been great enough to relegate the Russian-German treaty of reciprocity to second place in public discussion.

IMPORTS AND EXPORTS OF THE EMPIRE.

VALUES.

The value of the Empire's imports during the first six months of 1904 was $714,042,840, against $732,326,000 and $675,682,000, respectively, during like periods in 1903 and 1902. The values of the imports of precious metals during the periods under consideration were $16,898,000 (1904), $15,946,000 (1903), and $13,566,000 (1902).

The value of the exports was $596,904,000 during the first six months of 1904, and $576,674,000 and $529,074,000, respectively, during similar periods in 1903 and 1902. The values of the exports of precious metals during the same periods were $11,424,000, $11,900,000, and $8,806,000, respectively.

QUANTITIES.

TOTALS.

During the first six months of 1904 the imports of the Empire amounted to 22,304,081 tons, against 21,723,916 tons during a like period in the previous year, and 19,661,309 tons during the first six months of 1902. The exports of the Empire during the first six months of 1904 amounted to 18,604,153 tons, against 18,303,199 tons during a like period in 1903, and 15,789,131 tons during the first six months of 1902. The increase in exports is chiefly in coal and cereals, particularly rye.

PRECIOUS METALS.

The imports of precious metals in the first six months of 1904, 1903, and 1902 were 631, 580, and 558 tons, respectively. The exports of precious metals were 213, 199, and 198 tons, respectively, during the first six months of the same years.

IRON.

During the first six months of 1904 the imports of iron amounted to 181,465 tons, against 133,456 tons during a like period in 1903; the exports amounted to 1,415,901 tons, against 1,830,801 tons in 1903.

COAL, COKE, ETC.

The imports of coal into the Empire for the first six months of 1904 amounted to 594,258 tons, against 637,772 tons in the first six months of 1903. The exports amounted to 1,285,855 tons in the same period of 1904, and to 1,274,159 tons in the first six months of 1903. The imports of coke were 37,331 tons during the first six months of 1904, and 35,755 tons during a like period in 1903, the exports 238,502 and 218,029 tons, respectively.

As supplementary to the foregoing, the following statement showing the production of coal, lignite, coke, and briquettes in all Germany and in Prussia during the first six months of 1903 and 1904 is submitted:

Production of coal, coke, etc., in Germany and Prussia, first six months of 1903 and 1904.

Product and country.	First six months of—	
	1903	1904
	Tons.	*Tons.*
Coal:		
All Germany	55,469,018	58,825,710
Prussia	51,738,705	55,469,540
Lignite:		
All Germany	21,405,540	23,262,060
Prussia	17,908,611	19,662,608
Coke:		
All Germany	5,544,644	5,999,402
Prussia	5,507,254	5,967,432
Briquettes:		
All Germany	4,848,201	5,439,468
Prussia	4,258,388	4,811,328

TREATY OF RECIPROCITY WITH RUSSIA.

In regard to the treaty of reciprocity with Russia, report puts Herr von Bülow, chancellor of the Empire, Germany's representative in the conferences, and M. Witte, Russia's representative, in accord on all points; in fact, there are those who maintain that the treaty has been signed. It is said that the treaty favors the Agrarian party and sacrifices the manufacturers of machinery and chemicals. Again, Russia is reported to have given up her right to the double duties of land and sea, probably in exchange for concessions on the part of Germany to Russia's cattle traders. It is reported also that the treaty is to remain in effect for twelve years from date of acceptance.

THE MONEY MARKET.

There are large sums on hand in the money market, in spite of increased demands on the Reichs Bank. The discount rates have remained at 2½ per cent.

MINER'S ANEMIA.

(*From United States Consul Brunot, St. Etienne, France.*)

I transmit herewith a report on miner's anemia, a disease produced by a worm known under the name of Ankylostoma, which may be of interest to the great mining industry of the United States. On account of the startling increase of this disease, the French Government has sent out circulars to the mining districts of France asking for full and positive information concerning it. The statistics will be published in a report to be presented to the Chamber of Deputies.

HISTORY OF THE MALADY.

Before giving a history of the malady known as miner's anemia, I may say that in France there are two schools holding opposite views on the affection. One affirms that miner's anemia is an affection produced solely by the poisoned atmosphere of the mine, alleging as proof that when the patient quits the mine for purer air he recovers rapidly, and holding that in case his condition does not improve the anemia was then only one of the symptoms of some morbid disease, such as cancer of one or other of the abdominal organs, nephritis, or perhaps leucemia. The other school contends that the anemia is really due to the presence of Ankylostoma, or miner's worm, propagated by the insanitary conditions of the mines, because of which the water is contaminated by the larvæ of the helminth.

Which of these opinions is correct may be elucidated by the inquiry the Government is instituting, but it seems to be pretty well proved in other countries that the latter opinion should prevail.

The word anemia is of modern origin. It was first mentioned by Albert Michel in 1732, in a thesis entitled "De Anemia." However, if the nomenclature is new, the morbid condition indicated by the word was at all times well known. Hippocrates devoted several pages to a description of this particular condition, but Halle was the first to apply the term to a malady which was prevalent in 1802 among the miners of Anzin, in the north of France, and of which he gave a detailed description in two treatises presented to the medical society.

These papers excited much interest among the medical men of the period, and several other monographs followed on the same subject, enlarging on the symptomatic description of the affection. Little was said, however, of the cause of the disease. The nature of the water in the mines, the foul air, the deleterious gases, the peculiar life of the miner, were incriminated in turn, but no precise conclusion was attained. One fact remained, however; the authors, exaggerating the importance of the writings of Halle, made anemia a pathological entity special to miners. But some years afterward (1838), with Dubini, a new era opened—the second period—in which the cause of the affection claimed attention.

As in many other medical discoveries, chance played here a certain rôle. Dubini, while making an autopsy at the Milan Hospital of a young peasant girl, discovered a special worm to which he gave the name Ankylostoma. Following up his researches he found that this parasite was very frequent among the inhabitants of northern Italy, as it was found to be present 20 times in 100 autopsies. Dubini published his discovery, but concluded that the parasite had no pathological importance; the great frequency of the helminth in patients of all professions appeared to him sufficient proof of its innocuousness.

The question of miner's anemia, as yet little understood, interested exceedingly the medical bodies of the different coal regions in France. In 1875 the Medical Society of the Loire invited reports on the subject, and that of Doctor Manouvrier received the highest award. This author, after describing the different forms of the affection, concluded as follows:

> We consider this malady to be produced by pulmonary, cutaneous, and gastro-intestinal absorption of the different gases derived from the coal; hydrocarbons and aniline appearing to play the principal rôle in the production of the disease.

Three years afterward (1879) Graziadei found the Ankylostoma in four brickmakers; one of the men died and about one thousand of the parasites were found in the small intestine.

It was about this time also that Perroncito found the worm in the workmen employed in the tunnel of St. Gothard. In Switzerland, on the other side of the tunnel, the same discovery was made, and in 1880 Doctor Sanderreger was appointed by the federal Government to make a study of the anemia. At first he attributed little importance to the presence of the Ankylostoma, but a few months later he coincided in the opinion of Perroncito that the anemia of the workmen was due to the presence of the helminth in the intestines. The majority of the Swiss medical men adopted the same views, among others Immermann, Baumeler, and Bugnion, of Lausanne. As to Perroncito, after studying the anemia of St. Gothard, he came to France and visited St. Etienne, where he discovered the worms in the excreta of all the miners presented to him as suffering more or less from anemia, and thereby concluded that the anemia of the miners of St. Etienne was the same as that of the workmen of the tunnel of St. Gothard, and that Ankylostoma was the cause.

This opinion did not prevail, however, among the doctors at St. Etienne, for after some months of special researches they drew up a report of which the following were some of the chief points:

1. Ankylostoma is found in workmen suffering from miner's anemia at St. Etienne.
2. The parasite exists also in miners who present no symptoms of anemia.

3. The parasite is easily and rapidly expelled by the extract of male fern.
4. In spite of the anthelminthic treatment the anemia has persisted, hence Ankylostoma does not appear to be the exclusive cause of the disease.
5. It is possible and probable that the anemia of the miners of St. Gothard differs from that of the coal miners of St. Etienne.

In spite, however, of this effort to sustain the ancient theory of anemia among miners, the opinion of Perroncito prevailed in France, and in more recent works the Italian doctor is sustained.

The St. Gothard malady produced a great sensation in Italy, and the minister of public instruction (Guido Baccelli) was interpellated on the subject in the Chamber of Deputies.

Later on, the attention of the German Government was drawn to the same question and a medical inquiry was started in the mining centers of the Empire, when it was found that the Ankylostoma was particularly prevalent in the mines of Westphalia, where it was introduced from Hungary. From Westphalia the infection spread to other coal regions, reaching the mines of Belgium, and finally passing over the border and contaminating the mines of the north of France; later it spread to the more southern districts.

It can not be said, however, that ankylostomiasis is peculiar to coal mines, as the disease has been found in other mines, as the tin mines of Cornwall, and also among brickmakers who work on the surface.

A few years ago a serious outbreak of anemia occurred in the mines of Cornwall, and the British Government commissioned Professor Haldane, and Doctor Boycott, lecturer on pathology at Guy's Hospital, London, to make a thorough inquiry into the cause of the malady, and to send in a report to the secretary of state.

DR. BOYCOTT'S DIAGNOSIS OF ANKYLOSTOMIASIS.

Doctor Boycott has been kind enough to forward at my request his report, dated November 24, 1902. In cooperation with Professor Haldane, Doctor Boycott examined carefully hundreds of miners and came to the conclusion that the epidemic of anemia in the Dolcoath tin mines was due entirely to the presence of Ankylostoma in the intestines of the workmen. In a more recent report (March 23, 1904) Doctor Boycott treats of the diagnosis of ankylostomiasis. I give herewith citations from these reports:

CHARACTER OF THE PARASITE

The Ankylostoma is a worm of small dimensions, the male measuring from 6 to 10 millimeters and the female from 9 to 18 millimeters. The numerical proportion between females and males in the intestine of man is 22 to 24. While the caudal extremity of the male is dilated, that of the female is tapering. The anterior extremity has the form of a sucker, and the mouth is garnished with four little teeth in the form of hooks. With these hooks the animal attaches itself to the intestinal mucous membrane, injuring the capillaries. In the female the two ovarian tubes produce hundreds of eggs of a regular oval shape. These eggs are easily recognized in the fecal matter; they have an anhistous envelope; the contents are brownish, and they are always found in a state of segmentation; their length varies between 44 and 63 millimeters. As they are found scattered in a uniform manner in the excreta, it is easy to estimate the total number. Leichtenstern found in one stool 4,000,000 eggs.

The egg expelled with the fecal matter becomes, at the end of a few days, a little larva, which pierces the thin envelope of the egg. This larva increases rapidly in size and may live for days and months in moist places. If it is swallowed with impure water it stops in the duodenum or upper portion of the small intestine of man, and in a few weeks attains the adult form. It is frequent to find in the duodenum 1,500 to 3,000 of these parasites, which suck the blood of the capillaries, and after a time the individual becomes anemic.

SYMPTOMS OF THE DISEASE.

In less than two months after the commencement of the infection the symptoms of anemia appear. During this period of incubation the patient complains of headache, general lassitude, digestive troubles, pain over the epigastrium, producing a sense of oppression, nausea, vomiting, pyrosis, and abdominal tympanites.

Pallor of the mucous membranes and the teguments follows in the train of all those symptoms. The patient suffers from vertigo, noises in the ears, and loss of strength; the heart is dilated, a "bruit de souffle" is heard at the base, indicating valvular insufficiency. The tongue is furred, the breath fetid, and constipation is the rule. The blood becomes pale and serous, the hemoglobin is diminished, while the white corpuscles are increased and assume divers forms.

Ankylostomiasis can be either acute or chronic. Spontaneous cure is very rare; generally the patients who have not been treated fall into a state of marasmus, in which state they succumb. This ultimate period has been particularly studied by Eichhorst. It is accompanied by atrophy of the muscular and adipose tissue, edema of the extremities, and dropsy of the serous cavities, and the patient takes to his bed, from which he will never arise.

DIAGNOSIS OF ANKYLOSTOMA INFECTION.

The means of diagnosing ankylostomiasis may be grouped under three heads: (1) General inspection of the men; (2) microscopical examination of the excreta; (3) examination of the blood.

GENERAL INSPECTION.

In the first place I would impress the fact that many of the individuals who harbor the parasite do not present any objective signs of disease, nor do they complain of any symptoms of illness. On the contrary, they will appear on ordinary examination, and will profess to be, in perfect health. Yet it is those healthy "worm carriers" who constitute the greatest danger of ankylostomiasis as a place disease; they have, indeed, greater powers than those who are actually ill of carrying infection from place to place, owing to their very healthiness and ability to work. It is true that in any large collection of infected men a certain number of individuals will generally be found who are pale, complain of shortness of breath, and show other symptoms of anemia, but this is not invariably the case. It is well known, too, that many men whose blood is found on accurate examination to be of deficient quality do not appear to be at all anemic on casual inspection.

MICROSCOPICAL EXAMINATION OF FECES.

Before an absolute diagnosis of ankylostomiasis is made, it is necessary to identify the characteristic eggs of the worm in the stools; and a mine may be examined for the presence of the disease by obtaining the excreta from a number of the men and submitting these to microscopical examination. The microscopical examination is simple and in most cases when eggs are present they are in such numbers that they are found at once. It is, however, necessary to search for a long time and on more than one occasion before giving a definite verdict that eggs are absent.

There is no doubt that a certain number of cases occur in which, though worms are present in small numbers (as is proved by autopsy), the eggs are not found by direct microscopical examination; nor are eggs found till about a month after the larvæ have entered the bowels.

EXAMINATION OF THE BLOOD.

Principles.—The examination of the blood, which I have investigated, is made as follows:

A small drop of blood is obtained by pricking the subject's finger; this is smeared on glass in a thin film, rapidly dried, and, after appropriate treatment with certain dyes, submitted to microscopical examination.

The blood consists of a clear fluid (plasma) in which float a number of minute relatively solid bodies (corpuscles). These latter consist of (a) red corpuscles, which contain all the red coloring matter (hemoglobin) of the blood, and to which the blood owes its opacity; and (b) white corpuscles (leucocytes) free from any pigment and much less numerous than the red corpuscles. Of these white corpuscles there are present in human blood at least six varieties, which are in practice distinguished from one another mainly by the capacity of their various parts to be stained in different colors by various dyes.

The variety which is of the greatest moment in the present connection is one which is characterized by containing in its substance a number of large round granules; these show a special affinity for the aniline dye eosin, which stains them bright red. They are on this account known as eosinophile leucocytes. When they are present in excessive numbers, eosinophilia is said to be present. It is this increase which constitutes the change in the blood observed in most cases of Ankylostoma infection.

In normal blood the eosinophile leucocytes commonly form from one-half per cent to about 4 per cent of all the white corpuscles; any percentage under 5 may be regarded as normal. The presence of between 5 and 10 per cent of eosinophile leucocytes raises a suspicion that some abnormality is present, the probability that such is the case increasing rapidly at about 8 per cent; any figure above 10 per cent is distinctly abnormal. It must be understood that these figures refer to individual cases. If in a large series the average is 5 per cent, there is clearly something amiss, though individual cases of 6 or 7 per cent are not very rare in persons who are apparently quite normal.

Method.—There are many different ways in which a microscopical examination of the blood may be made. The following has been recommended because the process is simple and is capable of giving excellent results under unfavorable circumstances:

For the preparation of the specimens of blood one needs only (a) large straight triangular surgical needles; (b) glass slides, 1 by 3 inches, of thin white glass; (c) two glass sample tubes, 1 by 3 inches, with corks; (d) Jenner's stain in powder, as prepared by Grubler; (e) pure methyl alcohol (Merck's "pro analysi"); (f) distilled water. The glass slides must be thoroughly cleaned before use. After washing with soap and water, wash thoroughly in clean water under the tap and then carefully dry and polish with a dry cloth. A small label should then be fixed at one end. They must be kept free from dust.

The finger is the most convenient part from which to take the blood; it should be fairly clean and must be dry. Stab quickly the finger with a new sharp needle. If the blood does not flow, squeeze it out with gentle pressure. To a small drop apply one of the glass slides close to the label. Lay the slide flat and place the end of the second slide touching the drop of blood on the side nearest the label. The drop will at once spread out laterally, when the second slide, held obliquely and inclined away from the label at about 45 degrees, is drawn steadily along the surface of the first. The pressure must be so adjusted that a thin, if possible, uniform, film of blood is left behind as the drop is, as it were, dragged along the glass. This film should be so thin that a large part of it dries in a few seconds. It is important that the film should dry quickly; if most of the film is not dry in less than half a minute it is too thick to be of any use and a second specimen should be obtained.

Dissolve 10 grains of the solid Jenner's stain in 100 cubic centimeters [3 ounces] of methyl alcohol in a clean, dry bottle, which must be kept closely corked. Put about 25 to 30 cubic centimeters of this solution into one of the sample tubes, which is also to be kept tightly corked; place two of the slides with films back to back in the sample tube, the labels being of course above the liquid. After two or three minutes by the watch, remove them and wash them in a vessel of distilled water by waving them backward and forward five or six times. Then dry the back and ends of the slides with a cloth, tilt them on end to drain, and allow the film to dry.

Instead of distilled water, which may not be to hand, clean rain water may be used; ordinary tap water spoils the film, but if a few drops of dilute acetic acid are added to a tumblerful of tap water, excellent results may be obtained. The same tube of staining fluid, with occasional additions of a few drops of fresh solution, should suffice to stain 200 slides.

It is better in all cases at first, and always with inferior films, to use an oil-immersion lens. This is best done without a cover glass, the oil being placed directly on the film. With a high (⅙ or ⅛ inch) dry lens it is necessary to mount the part of the film which is to be examined with a drop of Canada balsam solution and a "number 1" cover glass. After some practice, good films, if well stained, may be satisfactorily examined unmounted with a ½-inch objective.

The eosinophile leucocytes are stained very conspicuously by this method. The nucleus is rather dark blue, while the rest of the cell is crowded with large, round, refractile, bright red granules.

In counting the leucocytes the slide should be moved along steadily, no part being examined more than once. This is best done with a mechanical stage. During this process a count (on paper) is kept of each leucocyte seen, the eosinophile cells being put down separately; the percentage of eosinophile cells can be thus readily ascertained. In the films which I have examined for this inquiry, 500 leucocytes have in each case been counted and classified. Two or even one hundred, will, however, give fairly accurate results. For practical purposes it is, moreover, seldom necessary to make an actual numerical estimate at all.

The blood test is one which attains a considerable degree of accuracy, and it only remains for me now to consider certain points in its practical application.

The time occupied in making an examination of a mine by the blood-film method is certainly not more than that necessary to obtain and examine a corresponding number of specimens of feces. It is true that the method requires more experience and skill than the direct microscopic examination of the stools, but sufficient familiarity with the necessary technique and with the microscopic appearances of blood corpuscles is not difficult to acquire. The preparation of the films alone is very simple, and they can easily be sent for examination to those who are more familiar with microscopical work. Under favorable circumstances it is possible to obtain blood films from 10 per cent of 400 or 500 men in twenty minutes, and the preparation and examination of these specimens can be completed within twenty-four hours. The bulk of the specimens is small, and a large number can be carried in the pocket. They can be kept in good condition several months if immediate examination is for some reason inconvenient.

The actual enumeration of the white corpuscles is laborious, each specimen taking about half an hour, sometimes much longer. In but few cases, however, is it necessary to do this to find the exact percentage of the eosinophile leucocytes; a rapid, general examination will suffice to tell in nearly every instance whether they are present in normal or in definitely increased quantity. Positive results take a little longer in microscopical examination than in the direct examination of the stools, but negative results are reached much more rapidly. There is in this method no chance for fraud, since the specimens are obtained directly by the examiner from the subject, and there is little or no difficulty in persuading men to allow their fingers to be pricked.

There are, however, two serious drawbacks to this method. In the first place it is of very uncertain value in ascertaining whether an infected subject has been freed from the worms by treatment. Secondly, it can not yield evidence of Ankylostoma infection of a character so positive as would justify the immediate administration of anthelmintic treatment.

In every case an absolute diagnosis can only be made by finding eggs in the stools. But the method is not designed, nor is it proposed that it should be, for this detailed examination of individual cases; it is rather a simple, and I think accurate, way of investigating a large number of men easily and quickly to see if a suspicion of Ankylostoma is thereby raised of sufficient strength to justify the troublesome process of obtaining specimens from stools from a number of men. If specimens of blood from 10 to 20 per cent of the underground men fail to reveal any cases of an increase in the eosinophile cells, it may be assumed that the mine is free from extensive infection. If, on the other hand, cases of eosinophilia are met with, the individual source of each blood sample is known, and further investigation of each positive case is then made to see whether the abnormality is due to the Ankylostoma or to one of the other causes (certain acute skin diseases) of eosinophilia. It will be readily seen that the method is superior to the primary examination of feces in instances where there are no cases of Ankylostoma infection in a district.

PROPHYLAXIS OF ANKYLOSTOMIASIS.

The prophylactic treatment of the malady consists in the establishing of ordinary sanitary measures at the bottom of the mines. Water-closets, fixed or movable, should be placed at convenient distances and the men ordered to use them exclusively. Further, the miners should be recommended to wash their hands before taking their meals below, and to avoid as much as possible drinking any water except that sent down from the surface in closely covered receptacles. In a word, cleanliness is sufficient to stamp out the Ankylostoma infection from any mine.

HILARY S. BRUNOT, *Consul.*

ST. ETIENNE, FRANCE, *July 8, 1904.*

CANADIAN COAL NOTES.

(*From United States Consul-General Holloway, Halifax, Nova Scotia.*)

It is reported that the Pittsburg Coal Company, of Pittsburg, Pa., have acquired 35 acres of land at Fort William, Ontario, upon which to erect a coal handling and storage plant. The property has a frontage on the Kaministiquia and the McKellar rivers, and it is understood that the company intend to establish a plant equal in efficiency to the new one of the Canadian Pacific Railway and capable of storing 1,000,000 tons of coal, as they propose to make Fort William one of their principal distributing points in the Northwest.

The transfer of properties of the Cape Breton Coal, Iron and Railway Company at Cochranes Lake to an English syndicate headed by Messrs. Mayhew and Leech was finally consummated July 30. The new company will begin the work of developing the property by the construction of a branch railway to tap the Sydney and Louisburg road, and also of a branch and shipping pier at Louisburg. They are to make Louisburg the shipping port and will have running powers over the Sydney and Louisburg Railway. The manager says the output of the colliery, when in full operation, will be 2,000,000 tons annually.

Owing to the anticipated demand for cars to handle the prospective crops in the fall, the Canadian Pacific Railway has issued a circular announcing that during the months of October and November it will not supply any cars for the shipment of coal. It has heretofore been the custom of many of the Canadian dealers to defer the purchase of their season's stock until fall, when the railroad was making every effort to supply cars to the grain shippers, and this action of the company is expected to result in an earlier buying movement.

W. R. HOLLOWAY, *Consul-General.*

HALIFAX, NOVA SCOTIA, *August 3, 1904.*

INVOICES OF SHIPMENTS TO CUBA.

(*From United States Minister Squiers, Habana, Cuba.*)

In response to numerous complaints made to this legation against the requirements of the Cuban treasury department regarding invoices on shipment of merchandise to Cuba, I brought the subject to the attention of the Government, which, I am happy to report, has favorably received my representations.

The treasury department has issued a circular, of which a translation is herewith transmitted, according to which no consular invoices will be required in the shipment to Cuba of merchandise not exceeding $50 in value.

H. G. SQUIERS, *Minister.*

HABANA, CUBA, *August 10, 1904.*

CUBAN TREASURY CIRCULAR.

[*Translation.*]

HABANA, *July 7, 1904.*

SIR: In order to insure regularity in the importation of packets sent in the open mails in general and of those received from the United States of America in particular, in conformity with the postal convention between this Republic and the United States published in the Gaceta of Monday, October 5, 1903, the following instructions are promulgated:

1. In so far as concerns the United States of America the provisions of articles 139 to 146 of the ordinances in force must be conformed to in so far as they are in agreement with the postal convention with the said country; as relates to other countries the articles cited must be strictly observed.
2. To importations by post will be applied the provisions of article 104 of the ordinances, and for merchandise exceeding $50 in value, according to article 24 of the consular tariff, there must be presented the proper consular invoice, or in default of this, in the extreme cases provided for in article 104, a "pro forma" invoice with the consequent guaranty for its cancellation under the conditions at present governing the general importation of merchandise.
3. The provisions of articles 106, 221, and 226 of the ordinances in force will also be applied to imports.

Circulars No. 76 of March 23, 1903; No. 177 of December 19, 1903; No. 178 of December 22, 1903; No. 199 of January 14, 1904; No. 208 of January 22, 1904; and No. 209 of January 23, 1904, will also be remembered as governing importation by post.

The proper attention and the proper instructions should be given for the carrying out of the provisions of this circular.

GUILLERMO CHAPLE,
Assistant Secretary of the Treasury.

NOVA SCOTIA DROUGHT-STRICKEN.

(*From United States Consul-General Holloway, Halifax, Nova Scotia.*)

Nova Scotia is being scorched by one of the worst droughts in its history. This is particularly true of the eastern portion. The uplands of Pictou are as brown as they usually are late in the autumn. The hay crop is much less than half an average, in some places less than a third, and every other crop is suffering.

The farmers of Blue Mountain Garden of Eden, and indeed every part of the country, are bemoaning their withered grass and scantily covered hay fields. In some places the crop is so light, owing to the lack of rain, that it seems hardly worth the labor of cutting; but grass is so scarce and so poor that not a blade will be wasted that can be gathered in.

The "oldest inhabitant" in Pictou says that he does not remember a drought so disastrous as this is likely to be. Farmers who depend on upland hay to feed their stock through the winter, as many do, may be compelled to reduce their herds at a great loss.

Not only is the hay crop a failure, but the lack of rain is almost equally disastrous to oats and other cereals. Potatoes and root crops are suffering and can not much longer stand the lack of moisture.

W. R. HOLLOWAY, *Consul-General.*

HALIFAX, NOVA SCOTIA, *August 2, 1904.*

NOTES FROM CANADA.

(From United States Consul-General Holloway, Halifax, Nova Scotia.)

The plant of the Imperial Steel and Wire Company, of Collingwood, Ontario, is about completed, and its products will be in the market this month. It will be one of the best wire-drawing plants in America, being planned to give an output of 100 tons of wire daily. The buildings are of brick, consisting of a boiler house 40 by 35 feet, an engine room 50 by 35 feet, a wire-cleaning and acid mill 100 by 70 feet a wire-drawing mill 200 by 60 feet, a wire-nail mill 200 by 60 feet, and a galvanizing mill 225 by 50 feet. The buildings are served by two railway switches, and cover an area of about 5 acres. Ample room is provided also for a 100-ton wire-rod mill, which will be built this year.

Gold miners and prospectors of Victoria, British Columbia, have discovered a rich deposit of scheelite in the Willow Creek region of the Cariboo district. The provincial mineralogist says that it is more valuable than gold, and makes 14-cent steel worth 64 cents. The deposit of the mineral is said to be immense, and will be worked at once. Tungstic acid is manufactured from scheelite.

The Dominion government has retained a grain-elevator engineer to prepare plans and specifications for the large fireproof grain elevator to be built at Port Colborne, the Lake Erie entrance to the Welland Canal, which will be an adjunct to the canal system. The transportation commission recently recommended that an elevator be built at this point for the purpose of transferring grain from the large lake vessels, which carry cargoes of 150,000 to 250,000 bushels, to canal-size vessels or barges, which will then transport it through the Welland, Lake Ontario, and St. Lawrence canals to Montreal.

A party of American capitalists purpose erecting a copper smelter, to have a capacity of 150 tons per day, in the township of Salter, Ontario, provided the government will grant a bounty on copper produced in Ontario.

The American International Harvester Company is negotiating with the city of Brantford, Ontario, for the establishment of branch works there for the manufacture of plows, etc.

Messrs. Barnet & Record, contractors, Minneapolis, Minn., have commenced work on the construction of the Empire Elevator Company's new elevator at Fort William, Ontario.

The electors of Preston, Ontario, have voted in favor of municipal ownership of electric-lighting plants. A new power station will be erected and a first-class plant installed.

Thamesville, Ontario, has decided to install a waterworks system for fire protection, to purchase an electric-light plant and run it as a municipal concern, and to spend $6,500 for granolithic walks.

The Craig Shipbuilding Company, of Toledo, Ohio, has received a contract from the Grand Trunk Railway for a car ferry to operate from the port of Milwaukee, Wis. The ferry will be 360 feet long and of 56 feet beam, and will cost about $400,000.

The Dominion Coal Company will erect a dam over 700 feet long, constructed of stone-faced cribwork, on McAskills Brook, near Glace Bay, Nova Scotia.

The contract for the railway bridge over the Strait of Canso has been let. It will cost $6,000,000, and will be one of the largest bridges in the world.

A breakwater will be constructed in West London, Ontario, at a cost of $35,000.

The provincial government of Ontario recently approved of regulations which will be inserted in future in all agreements with companies building railways through the newer districts of Ontario, to effectually safeguard the forests of the province from fires. Lines of railway being constructed through forest lands, whether covered by license or not, must be guarded at the expense of the company by a staff of fire rangers for the protection of the timber.

W. R. HOLLOWAY, *Consul-General.*

HALIFAX, NOVA SCOTIA, *August 3, 1904.*

GOLD PRODUCTION IN THE TRANSVAAL.

(*From Export, a German financial journal, of July 14, 1904.*)

During the first four months of 1904 the Transvaal mined 1,192,514 ounces of gold, worth $24,651,143. During a corresponding period in 1903 the output was 831,128 ounces, worth $17,387,532. The total product of gold in 1903 was worth $61,265,570. If the rate of production of the first four months of 1904 is maintained, the Transvaal will yield in 1904 at least $77,864,000 worth of the yellow metal—in other words, as much as in the years just preceding the Boer war. The introduction of Chinese labor is expected to put the colony in a position to maintain the production figures of previous years. English enthusiasts are looking for a future output in the Transvaal of $120,000,000 to $150,000,000 a year.

What such a production must mean to the world's workshops is hard to realize. It will mean a vast increase in South Africa's purchases of dynamite, explosives, steel, quicksilver, cyanide, zinc, electric and other pumps, steel hammers, stone-boring machines, pipes, etc. Foods will be wanted in vast quantities. It will take a year or two to get the increasing ratio on a reasonable basis. What the effect is to be on the stock of the South African companies can hardly be arrived at by means of the information at hand, and no very great optimism ought to be indulged in. The stable concerns are now high above par, and the others may never reach par, even with increased production.

EUROPEAN INTERESTS IN THE FAR EAST.

M. Paul Walle, in the Annales Politiques, published in Paris, France, has the following interesting article on the French and Germans in China. This translation is made from a résumé of the article published in Le Mercure, a Belgian commercial paper, of August 7, 1904:

All occasions are suitable for breaking loose from the apathy caused everywhere by the ignorance of our leading merchants and manufacturers of all ranks in regard to certain parts of the world, places in which our commercial influence might be easily and profitably extended. Events in the Far East are moving with such rapidity that it is easy to see that a time is near at hand when the bloody war now being waged is to be followed by an economic or industrial war.

It ought to touch our national pride when we are told that we have allowed ourselves to be beaten in the East by competitors who appeared on the scene long after us. Without wishing to draw a parallel between France and England, whose commercial superiority is indisputable, one may be allowed to compare our commercial expansion with that of Germany, a country that has developed so remarkably in the Far East during the last five years that she begins to successfully compete with the English, who still claim 53 per cent of general oriental trade.

The places in which enterprising merchants settle soon become little colonies, for this word will cover coaling and supply stations, both for the fighting and merchant marine, as well as the far-off places of the world in which isolated or associated individuals work for the introduction of goods made in their home lands. All can consistently be called colonies. It will pay to study English maps in connection with this matter. The Germans are imitating the English.

Up to 1860 the propaganda of the Germans in China was entirely religious. Since that time commerce, then of little or no account, has undergone a great change and is still making remarkable progress. In 1860 Germans took part for the first time in the administration of imperial maritime customs. In 1875 there were 29 Germans to 23 Frenchmen and 215 Englishmen in this service; in 1895 the annual report of the imperial customs service showed the number of Germans to be 84 and of Frenchmen 34. In 1879 there were 64 German business houses in the open ports of China, whose work was carried on by 367 residents. In 1900 there were 115 houses and 1,200 residents connected with them. From that time on the increase has been still more rapid.

To get a good idea of Germany's progress in China all one has to do is to glance at the situation in 1901 in the four principal commercial centers of the Empire—Shanghai, Canton, Tientsin, and Hankau. In Shanghai the Germans had 75 business houses in 1901, against 45 in 1898. The German Asiatic Bank (Deutsche Asiatische Bank), which increased its capital in 1900 from 3,750,000 to 5,000,000 taels, has its central office in that city. The total German trade of the port, $28,560,000, represents 22 per cent of the port's total and an increase of 7 per cent over the German trade of 1898. Two German companies were organized there to spin wool and silk, with a capital of $476,000. The capital invested by Germans in the various banking institutions of the city amounts to $1,939,700, and the real estate owned by Germans is valued at $880,600.

At Canton the Germans have 17 commercial houses, and do an import and export business of between $12,000,000 and $17,000,000. They own real estate worth $357,000, of which $154,700 worth belongs to missionaries. At Tientsin there are 25 German houses, including an agency of the German Asiatic Bank. The German funds invested amount to $2,856,000 plus $357,000 invested in the mines of Kaiping and $952,000 in real estate.

At Hankau there is a branch of the German Asiatic Bank, and 12 German business houses, importing $952,000 worth of goods and exporting $2,856,000 worth. The funds invested in business are estimated at $1,666,000, and those invested in mines at $952,000. There are $23,800 invested in an aniline dye factory. The German houses are not so well established as are the English houses, yet they can compete fairly well.

What the Germans needed in China is a place like Hongkong as a base of support. The murder of two missionaries in 1898 gave them a good chance to get it. They took the chance and obtained Kiaochau and its magnificent bay, besides considerable land in the adjacent province of Shantung. There they have built railroads into the interior with a view to the exploitation of the rich mineral and agricultural resources.

In Germany the establishment of commercial houses in China is looked upon as a public service, so much so that important subsidies are granted annually to merchants whose business ventures are not sufficiently productive to warrant their unsupported continuance. The German factors start out with the idea that the way to do business in China is either to go there themselves or to send persons with full powers to act for them, for it is notorious that one can carry on no business very successfully, particularly in such far-off regions, by means of correspondence alone.

In all this the French would do well to imitate the Germans. The French exports to China amount to hardly $1,190,000; we ought certainly to be able to make a much better showing. The number of French firms established in China has increased from 20 in 1879 to 88 in 1900, and the number of French residents has increased from 228 to 1,200 in the same time.

But the augmentation in the number of houses ought to be followed by an increase in business. What are the facts? One of the principal articles of French export trade is wine, but this is beginning to fare badly in competition with Italian and Spanish wines. Generally speaking, French goods are handicapped in the Far East by their high prices. This is due to the cost of production, which is too great, and often far above the selling price of similar German goods. French manufacturers seem to seek nothing more than the markets and profits guaranteed to them by high tariffs at home. They neglect to inform themselves about the wants, tastes, and conditions of foreign countries into which it ought to be possible to introduce French manufactures.

As we have often pointed out, French producers often try to force their taste on foreigners, never trying to manufacture inferior grades of goods. Now, the good and the beautiful cost considerable and can seldom or never compete with similar though really inferior goods produced by others. Almost all articles imported for consumption into China are of inferior quality. It is absolutely necessary to put them within the reach of the Chinaman's purse. This the Germans have understood. They believe in large sales at small profits. That, in the long run, pays better than to make small sales at large profits. In China it pays well to heed this old-time business maxim.

Our manufacturers should not forget nor neglect the Chinaman's taste for painting and ornament. To get a good idea of how much this means in the Celestial Empire one has only to note the extraordinary sale of chromos and colored prints in the streets of Chinese cities—goods that are given away to advertise European and American articles. Even in the matter of packing and wrapping, it pays to give attention to the demands not only of the Chinese, but of all people whom we want to secure as purchasers of our products.

Another weak spot in the weapons with which France is fighting for a place in the Far East is found in the absence of a successful system of transportation. The Compagnie des Messageries Maritimes, subsidized by the French Government, and the Compagnie de Navigation Tonkinoise represent the French merchant marine in the Far East. This company does not give entire satisfaction to French manufacturers. According to a number of travelers, men competent to express an opinion, it is only a matter of money to get a commercial marine for the coast and river service under the French flag, but with English-speaking captains. It is superfluous to point out the disadvantages which must result to the trade of any and every country that has to depend upon foreign ships to transport its products. Our undertakings in China, confined to a small number of cities, lack in general the powerful organization of our competitors. They have local lines to aid their efforts.

German trade has had most useful aids in the three companies that have entered the eastern field of trade. One, the North German Lloyd, has had its subsidy increased by $378,420, thus bringing the total up to $1,330,000. That one company has succeeded in securing a great deal of Germany's Chinese trade, in fact the greater part of it. It has doubled the number of its freight boats and its postal service between Shanghai and Yokohama, thus bringing the number of its vessels up to 95, making its mercantile marine in the East a redoubtable competitor of French vessels.

Chinese exports to France are important. They amount to nearly $27,020,000 a year. They consist largely of silk, both spun and on the cocoons, for the silk mills of Lyons. Although France is the principal exporter of silk goods, it is Swiss and German houses that send us the largest quantities of Chinese silk. Of the $14,000,000 worth of silk destined for Lyons sent from China, only $1,200,000 or $1,400,000 are furnished by French houses in the Far East. Doubtless the manufacturers of Lyons prefer to deal with the German merchants in China, who take pains to give them what they want.

France, by means of clever and intelligent diplomatic efforts, succeeded in securing a large part of the Chinese railroad concessions made to foreign companies. Associated with Belgian capitalists we obtained the right to build a line from Peking to Hankau, the first road allowed by royal edict in China. The loan was opened at Paris and Brussels in 1899. This union of the two countries was made to disarm the suspicions or susceptibilities of such countries as would be likely to take alarm at a concession of such importance if made to one of the great powers. But even there we were beaten, for Belgium, basing its opinion on article 14 of the treaty, seized and succeeded in securing the right to rule the enterprise. Here is the high directing hand.

The French syndicates fared no better in the mining concessions of Yunnan and several other provinces. Among the most enterprising companies in China are the Syndicat d'Études Industrielles et de Travaux Publics en Chine and the Société Anonyme d'Exploitation Minière. These companies are a striking example of successful initiative. They got important mining concessions—concessions rich beyond comparison—but they got no backing from the leading banks of France. They had the humiliation of seeing the subscription list filled with English names and were forced to form another organization under the name of the "Quicksilver and Mining Company (Limited)." As a result the organization is no longer French, even in name. The same is true of the Anglo-French Quicksilver Company, whose seat is in London, whose engineers are English, and whose representative at Shanghai is a German. The concessions in Szechuen are entirely French, but report has it that they have passed or are to pass into the possession of strangers.

It is our misfortune always to lose great enterprises just when they are about to become profitable. The number of open ports in China is bound to increase considerably. We must not get discouraged. Success is always the reward of intelligent initiative and perseverance. In the face of our competitors' success and the success of some of our compatriots, French merchants and manufacturers ought to rise superior to their ordinary indifference and do all in their power to increase our trade in the Far East. They should learn to imitate and emulate their rivals. What they learn will serve to encourage them to go on. They will undertake new enterprises and so carry them out that the world will see, in spite of our detractors, that Frenchmen are still capable of carrying on affairs of all kinds when once they undertake them.

ITALIAN CHAMBERS OF COMMERCE IN FOREIGN COUNTRIES.

According to Das Handels-Museum, official organ of the Austrian Government, the number of Italian chambers of commerce in foreign countries has increased during recent years, keeping pace with the growth of Italian trade and with the interests of Italian emigrants. The subsidies rendered by the Italian colony for the maintenance of such institutions, however, have not increased. The result has been a decrease in the amount advanced to each chamber of commerce as the number increased. This is all the more difficult to bear beause Italian colonies in foreign countries are usually poor in numbers; besides, the large firms and commercial institutions in Italy do not all belong as paying members to the foreign chambers of commerce. The Government is of the opinion that the sending of commercial experts to the most important places in foreign lands will make up in large part for what has been lost in the past by adding to the number of foreign chambers of commerce without increasing the subsidy. A congress of the Italian chambers of commerce, held recently, declares that the subsidy paid to foreign chambers of commerce from the fund made up of about $5,770 paid by the Government and $4,730 paid by the Italian chambers of commerce is entirely insufficient for the maintenance of the present number of Italian chambers of commerce abroad. The congress urges the importance of these organizations and recommends that a much larger sum be paid for their support.

NOTES.

Laws Governing the Sale of Butter in South America.—The following is a condensation of the reports received in answer to a circular sent to United States consuls in South America requesting information in regard to the laws in South America relating to the sale of butter:

Brazil and Colombia.—There are no national laws governing the production or sale of butter. In Brazil there is a tariff on importation of 30 cents per kilogram (2.20 pounds) and a tariff of double that sum on margarin and other substitutes.

Ecuador.—There are no special laws, though all food stuff found in bad condition is destroyed.

Guiana.—The law provides that no person shall sell any compounded article of food which is not compounded of ingredients in accordance with the demands of the purchaser. Margarin and oleomargarine must be so marked that they may be distinguished as such.

Peru.—There is only municipal legislation in regard to butter. The greater part consumed is domestic. The importation is chiefly from Italy, in tins. Stores selling imitations must hang out a sign marked: "Oleomargarine or artificial butter sold here." Each package sold must be properly labeled—i. e., must indicate contents.

Venezuela.—There are no special laws as regards butter, domestic or imported, except that all adulterated butter or lard shall be seized and destroyed.

Monthly Summary of Commerce and Finance.—The following notice of the February Monthly Summary of Commerce and Finance, issued from the Bureau of Statistics, Department of Commerce and Labor, appears in the advance sheets of the Berlin Centralstelle für Vorbereitung von Handelsverträgen (central office for preparation of commercial treaties), dated June 27, 1904:

> How ample is the system of disseminating commercial information by the United States is shown by the latest (February) Monthly Summary of Commerce and Finance which has been received in Germany. It contains two comprehensive commercial monographs, entitled "Commercial Russia in 1904," and "Commercial Japan in 1904," and contains in all about 300 closely printed pages. The publication is full of valuable material collated from all over the world for the information of the American commercial man, and is such a publication as could be printed only with the help of ample financial resources such as America alone possesses. The work should receive careful attention in Germany. It may be consulted by those interested at the office of the Centralstelle.

Inspecting the Magdalena River.—A commission has been appointed to inspect the Magdalena River from Honda to Barranquilla and to report on the improvement and canalization of the same, with specifications of the places in which there is the most urgent demand for the removal of obstacles to navigation.—*Alban G. Snyder, Consul-General, Bogotá, Colombia, May 28, 1904.*

French Capital in Russia.—According to the Bulletin de Statistique de Legislation Comparée (Bulletin of the Statistics of Comparative Legislation), published in Paris, France, Russia has received large sums of French capital, viz, $1,175,370,000 in imperial loans and $152,856,000 in industrial enterprises. Of these latter southern Russia obtained $58,479,000, Moscow and environs, $42,706,000; Russian Poland, $34,740,000; St. Petersburg and vicinity, $4,825,000; other parts, $8,685,000. France has $9,457,000 in commercial undertakings, $3,474,000 in banks, and $3,281,000 in real estate transactions. Thus the total amount invested is $1,344,438,000. When it is remembered that a very large part of the capital usually accredited to Belgium in the books of Russian and European writers belongs to France, it will be seen that the total investments of the Republic in the Empire exceed the figures furnished in this estimate.

Alcohol in Marseille.—Replying to the inquiry of a New York correspondent, I have to say that American alcohol is sold here on the following conditions: First quality, white, clear, and limpid, 92° to 93° C. guaranteed, packed in new barrels, iron bound, containing 42 to 46 gallons, sold on the basis of c. i. f. Marseille, payable against documentary drafts, to be discounted at 6 per cent per annum. For some years no American alcohol has come to Marseille by reason of the cheapness of foreign alcohols, and we can not count upon doing the same important business as in previous years. At all events, in order to have a chance in this market, firm offers would be required at about 35 francs [$6.75] c. i. f. per hectoliter of 27 American gallons, conditions as above set forth. Sales are made by the hectoliter of 27 American gallons.—*Robert P. Skinner, Consul-General, Marseille, France, June 17, 1904.*

Pauperism in Southwest England.—The annual report on pauperism in the southwest of England has just been issued. The district covered by the report comprises the counties of Devon, Cornwall, and Somerset, with the exception of the unions of Bath, Keynsham, and Long Ashton. By way of comparison it may be pointed out that in the Kingdom generally the number of paupers in each 1,000 of the population is 26. Among the 47 unions in the southwestern district there are only 5 where the rate of pauperism is not above the average of England and Wales. This is a bad showing, but nevertheless is an improvement over previous years. The number of paupers in the district has fallen from 52,814 in 1896 to 43,125 at the beginning of the present year, a reduction of 9,689. This means a saving of about $115,000 per year in outdoor relief. Out of every 1,000 people in the southwest of England 33 are acknowledged public paupers.—*Jos. G. Stephens, Consul, Plymouth, England, June 20, 1904.*

Canadian Lumber Market.—Canadian lumber dealers are still discouraged with the outlook in the British market. Early in the spring it was thought the prices had reached rock bottom, but cable advices state they are still declining. Notwithstanding this considerable stuff is being sent forward, though some of the larger operators are holding back, hoping that something better will turn up before the season closes. The past winter was a good one for lumbering; there was an extra large cut. Had the prices remained the same as last year this season would have been exceedingly prosperous, but under the present conditions profits will be so small that in some cases the balance will probably be on the wrong side.—*W. R. Holloway, Consul-General, Halifax, Nova Scotia, June 28, 1904.*

Notes on Foreign Trade.—A new steamship company with a capital of $2,600,000 has been formed in Genoa. This new line is to carry on a passenger and emigrant service between Genoa and America.

During 1903 the exports of coal from English and Scotch ports to foreign parts amounted to 44,950,057 tons, exceeding the exportation of the year before by 1,791,000 tons.

In spite of strong efforts made to increase domestic poultry culture in Great Britain, the importation of eggs has again increased during the last year, amounting in value to $32,204,642 against $29,353,681 for the year 1902.—*Richard Guenther, Consul-General, Frankfort, Germany, June 30, 1904.*

Parcels Post between Canada and Trinidad.—The postmaster-general of the Dominion of Canada has announced that a parcels post will be established between Canada and Trinidad in the near future.—*W. R. Holloway, Consul-General, Halifax, Nova Scotia, July 2, 1904.*

Sample Warerooms at Stuttgart.—The Sample Warerooms at Stuttgart, representing manufactures of the Kingdom of Württemberg, has published its annual statement concerning its activity in 1903.

During that year this agency sent out 16,885 letters and 9,975 catalogues, representing the production of 55 factories. The total number of orders received was 3,169. During the year no losses were suffered on accounts which were made through this agency.

The Stuttgart Sample Warerooms Association has also a branch in Hamburg, which has increased its business during the last year.

The sales to Greece show additional gains, owing to the efforts of the Sample Warerooms' representatives.—*Richard Guenther, Consul-General, Frankfort, Germany, June 4, 1904.*

Production of Pig Iron in England.—The price of Cleveland pig iron is about $10 to $10.50 a ton.

The number of furnaces in blast at the close of May, 1904, in the Middlesbrough district were 77, against 81 at the same date in 1903; in the Cleveland district, May 31, 1904, 26, against 33 at the same date in 1903.

Though 68,651 tons of pig iron were shipped to America during the first five months in 1903, none has been shipped so far in 1904.—*H. Clay Evans, Consul-General, London, England, June 10, 1904.*

The Sicilian Lemon Crop.—The summer lemon crop in this district is about average in yield; the quality is exceptionally good. The quantity for export will be about 140,000 boxes. Prices, $1.93 to $2.32 per box. Freight per box to New York, 30.4 cents.—*Alexander Heingartner, Consul, Catania, Sicily, June 1, 1904.*

Crane Needed at La Rochelle, France.—The chamber of commerce at La Rochelle is at present studying the best means of installing a crane on the quay of the La Pallice dock. It has practically been decided that if foreign manufacturers can submit more advantageous offers than the local producers the best bid will receive the contract. It should be remembered, however, that the details of the matter have not all been worked out and that a careful study of the project is being made. American manufacturers should then keep in mind that what is needed at the present moment is the most complete information possible upon various kinds and prices of cranes, in order to permit the chamber of commerce here to specify exactly what they want. The following details may serve as a guide to manufacturers:

The lifting power of the crane desired is 30 tons. The beam, or the part which projects over the water or vessel alongside, should be long enough to unload from a point about 26 feet 6 inches from the edge of the quay. The height of the distal end above the quay should be 15 meters (49.21 feet); the vertical distance between the edge of the quay and that part of the crane directly over it, 8 meters (26.4 feet). A locomobile crane is preferred, but should the conditions be unfavorable for installing such a machine, then a fixed crane would be adopted. The secretary of the chamber of commerce requested me, during a recent visit paid him, to invite American firms to offer plans and descriptions of their machinery of this kind, and also to submit any project seeming practical to them.

After a few weeks of study, offers for the installation of this crane will be invited.—*George H. Jackson, Consul, La Rochelle, France, July 2, 1904.*

Milk-Powder Factory in France.—One of the many opportunities for the investment of American capital in this part of France has been seized upon by certain American interests, combined with local French enterprise, in the establishment of a factory for reducing milk to powder. The company is known as the H. M. Mott-Smith Company, or Société de Lait Solidifié Française. The factory will be in operation in a few weeks and will employ the Juste-Hatmaker process for evaporating and sifting milk. The capacity of the factory is 2 tons of powdered milk a day, which represents about 5,000 gallons of fresh milk. The product is destined both for domestic and foreign consumption. The factory is located in the midst of a very important dairy district, and the chocolate manufacturers in the neighboring cities are already preparing to profit by its presence.

It is hoped that this is but a forerunner of other American enterprises.—*George H. Jackson, Consul, La Rochelle, France, July 2, 1904.*

English-German Competition.—The manager of the carbon works of the General Lighting Company writes to the Daily Mail (London), in reference to the proposal of a German firm to establish in England large works for the manufacture of carbons for electric arc lamps, that the English factory at Witton, near Birmingham, has turned out for the last two years carbons for the Government, municipalities, and other users of a quality and at prices that allow competition with German manufacturers.

The amount of "dumping," with a view to killing the carbon industry in this country, would, he adds, astonish the most inveterate free importer. Foreign manufacturers sell at something like 40 per cent cheaper than in their own country.—*Richard Guenther, Consul-General, Frankfort, Germany, June 16, 1904.*

Agricultural Development in Egypt.—The Italian commercial attaché in Egypt reports to his Government that Egyptian agriculture has entered upon an era of mighty development, owing to extensive drainage and irrigation works which have been constructed, and also in part owing to the land credit companies, which give liberal financial aid to the planters and farmers, thus releasing the latter from usurers. Much benefit to Egyptian agricultural interests has arisen from the building of new railroad lines and the improvement of water communications. Cotton, the chief product of Egypt, has realized good prices, consequently the area planted in cotton is increasing largely.—*Richard Guenther, Consul-General, Frankfort, Germany, June 31, 1904.*

Electroplating Aluminum.—In the current issue of Chambers' Journal (says Consul-General H. Clay Evans, London, England, June 29, 1904) appears the following, which may be of interest:

> Aluminum, on account of its lightness and its great toughness when alloyed with other metals, has, since its production has been so enormously cheapened, come into general use for a multiplicity of purposes. But one great drawback to its use is the rapidity with which its surface becomes dull and leaden in hue owing to rapid oxidation. This characteristic has hitherto prevented aluminum from being easily electroplated with gold or silver, as copper may be; but, according to an announcement in the Electro-Chemical Industry, this difficulty has been removed by the discovery of a method by which aluminum can be given a coating of any desired metal. The film of oxide which covers the surface of the aluminum is removed by adding to the plating bath a small quantity of soluble fluoride, and the metal then receives a superficial coating of zinc or copper, upon which silver or gold can be subsequently deposited. The new process will doubtless be highly valued by the makers of opera glasses, photographic lenses, telescopes, and other instruments.

Panama wants Flag and Coat of Arms.—Mr. Joseph W. J. Lee, secretary of the United States legation, Panama, under date of June 20, 1904, reports that a competition has been authorized by the Panama Government for the submission of designs for a national coat of arms and a national flag. A prize of $200 each is to be awarded to the successful competitor. Treatment, colors, objects, and other elements which enter into the composition of the shield or flag will be left to the free will and ideas of the competitors without limitation, except that the sketches must be original and in good taste.

Steam Motor Cars in England.—It is announced that the Midland Railway Company will introduce shortly a service of steam motor cars—passenger cars each propelled by its own steam plant—on their Hitchin and Bedford branch line, and also between the Morecambe and Heysham stations. It is said the first of these cars, recently completed, maintained at a trial a speed of 56 miles an hour for some distance while traveling on the level, and about 53 miles while ascending a gradient of 1 in 60.—*Marshal Halstead*, *Consul*, *Birmingham*, *England*, *June 28*, *1904*.

Importation of American Cotton Seed into Egypt Prohibited.—Under date of June 30, 1904, the consul-general of the United States at Cairo has notified the Department of Commerce and Labor, through the Department of State, that in view of the report presented by the Khedivial Agricultural Society calling attention to the ravages on cotton plantations in America by a certain insect, and setting forth the consequent danger to the Egyptian product of introducing into the country American cotton seed, a decree was issued on June 20 forbidding its importation into Egypt.

Seminary for Oriental Languages at Berlin.—The Seminary for Oriental Languages at Berlin has, during the present summer course, 156 students. Of these, 70 are jurists, 45 are candidates for the diplomatic and consular service, 29 are scientists, teachers, and members of the philosophical faculty, 18 are Government officials, merchants, and private persons, 19 are officials of the Federal post-office department, 13 are army officers, 2 are physicians, 3 are theologians, and 2 are technicians. The number of foreigners is 10.—*Richard Guenther*, *Consul-General*, *Frankfort*, *Germany*, *June 23*, *1904*.

Water Pipe Wanted at Victoria, British Columbia.—The city of Victoria has advertised for tenders for 12,000 feet of cast-iron pipe to be delivered in Victoria on or before the 1st day of May, 1905. The tenders, sealed, indorsed "Tenders for water pipes," and addressed to W. W. Northcott, Purchasing Agent, City Hall, Victoria, British Columbia, must be received before 3 p. m. on Monday, September 12, 1904. Competition is open to all, but the city advertises that the lowest or any tender will not necessarily be accepted.—*Abraham E. Smith*, *Consul*, *Victoria*, *British Columbia*, *July 8*, *1904*.

Steamship Line between Canada and South Africa.—The newspapers report that an arrangement has been entered into between the Canadian government and the Elder-Dempster Steamship Company for a steamship service between Canada and South Africa to develop trade between these two British colonies. The steamships fitted for the service are the *Melvin* and the *Monarch*. The ports of call are Cape Town, Port Elizabeth, East London, and Durban. The company places at the disposal of "Canadian merchants and manufacturers, free of charge, a number of passages as well as certain cargo accommodation for samples of Canadian goods and materials on their liners trading between Montreal and South African ports, and these goods and materials will be placed on exhibition at the Cape ports at which the steamers call. Each passenger representing a particular branch of Canadian trade will be allowed a section of from 10 to 20 tons capacity in the "'tween decks' of the steamers." The passengers are chosen and the cargo accommodations arranged jointly by the president of the board of trade at Montreal and the secretary of the Canadian Manufacturers' Association, of Toronto.—*Marshal Halstead, Consul, Birmingham, England, July 2, 1904.*

German and American Production of Beer.—Germany yields the first place in beer production to the United States. According to the statistics of the German Brewers' Association, their product in 1903 declined to 1,787,615,000 gallons, or 132,085,230 gallons less than the output of the United States. The falling off in this country is attributed to several causes, among which were a cold, wet summer which did not provoke the usual consuming thirst, the spread of temperance reform principles among the middle classes, and, principally, the fact that during the prosperous industrial development of the past ten years the families of workingmen have become accustomed to more and better food, clothing, and general comfort, so that when hard times and shortened labor decrease the earnings of the bread winner, he is obliged to economize in his beer as well as in the meat bill and other expenses of the family. There are, moreover, several large factories and machine shops where the afternoon "beer pause" has been abandoned, and where if any drink is served tea or coffee has been substituted.—*Frank H. Mason, Consul-General, Berlin, Germany, July 8, 1904.*

Convenient Postal Device.—The English newspapers report a new application in Australia of the principle of the coin-in-the-slot machine, stating that if a stamp can not be purchased conveniently it will be possible in the future to drop a letter into one orifice of a postal box and a penny into a second orifice, and the words "one penny paid" will be found impressed on the envelope when the box is opened by the post-office authorities, thereby securing the transmission of the letter.—*Marshal Halstead, Consul, Birmingham, England, July 12, 1904.*

Venezuela's New Telegraph Tariff.—The new Venezuelan telegraph tariff provides for a charge of 29 cents for dispatches of from one to ten words—double price from 6 p. m. to 6 a. m. The usual language is Spanish, but any other language may be used at double rates.—*E. H. Plumacher, Consul, Maracaibo, Venezuela, June 27, 1904.*

Water Supply and Sewerage for Iquitos, Peru.—The minister of public works is authorized to select a person experienced in engineering work to inspect the ground and report on the cost of water supply and sewerage for the town of Iquitos. The minister can be addressed at the Palace de Gobierno, Lima, Peru.—*A. M. Gottschalk, Consul, Callao, Peru, June 25, 1904.*

Summer Attendance at the German Universities.—The total number of matriculated students during the present summer at the German universities is 39,581, against 37,881 last winter and 37,813 during the summer of 1903. Ten years ago the attendance was about 11,000 less than to-day. Eleven thousand seven hundred and seventy-five of the present students study law, 8,111 philology and history, 5,945 medicine, 5,945 mathematics or natural sciences, 2,235 evangelical theology, and 1,770 Catholic theology.—*Richard Guenther, Consul-General, Frankfort, Germany, June 27, 1904.*

Wages in Germany.—Under date of July 9, 1904, United States Consul-General Guenther, of Frankfort, Germany, transmits the following tabular statement taken from the Frankfurter Zeitung of July 7, showing the average annual wages earned by workmen over 16 years of age, in the mining and iron and steel industries of Upper Silesia, Germany, for the five years, 1899–1903.

Average annual wages per capita in the mining and iron industries, Upper Silesia.

Industry.	1899	1900	1901	1902	1903
Mining:					
Coal	$218.33	$242.38	$245.24	$231.41	$235.71
Iron ore	146.43	155.48	173.81	179.05	....
Zinc and lead ore	178.59	193.57	207.14	226.19	192.86
Steel and iron industry.					
Furnaces	221.67	234.76	251.43	235.95	244.29
Rolling mills	219.52	121.43	216.19	216.19	218.57
Iron foundries	204.52	205.48	214.29	210.00	211.67
Wire, ropes, nails, etc	206.91	221.67	217.38	223.57	220.48
Zinc, lead, and silver works	215.72	234.26	235.24	232.14	234.05
Coke ovens	197.14	216.43	235.24	223.09	221.45

Largest Station for Wireless Telegraphy.—The largest station for wireless telegraphy yet erected will be completed at Pisa, Italy, in September next. The buildings will be entirely of stone. As it will take some time to put the machinery and apparatus in place, the station will probably not be ready for transmitting and receiving messages before the beginning of the next year.

The station will be called Coltano. It is designed to establish wireless telegraphic communication from there with Great Britain, Holland, the United States, and Canada, as also with vessels in the Mediterranean, the Baltic Sea, the Red Sea, and the Atlantic and Indian oceans. Lately two Marconi stations have also been completed on the coast of Montenegro, and are now in working order.—*Richard Guenther, Consul-General, Frankfort, Germany, June 15, 1904.*

How to Keep American Shoes out of Germany.—The Association of Shoe Manufacturers of Germany has just closed its annual convention at Berlin. One of the principal subjects of discussion was "How to combat the importation of American shoes." The executive committee of the association has been in conference with the Central Union of Shoe Dealers of Germany, and it was resolved that both organizations present a petition to the National Legislature and to the chancellor of the Empire, praying that the imposts on imported shoes, as fixed by the new German tariff law, be rigidly adhered to when negotiating for new commercial treaties. The association also expressed its opinion that the most efficient means of preventing the influx of American shoes is to be found in improving the German-made article.—*Richard Guenther, Consul-General, Frankfort, Germany, July 5, 1904.*

Proposed Public Works in Natal and Roumania.—The Natal legislative assembly has been asked to pass an act authorizing the town of Ladysmith to issue the sum of $170,327.50 in bonds, in order to make certain needed improvements in the municipal waterworks.

The city authorities of Botoshani, a place of about 32,000 inhabitants in the province of Botoshani, Roumania, have received permission to expend the sum of $141,276 upon its sewerage system, and $39,372 for building and equipping a fire-engine house and making certain improvements upon the city hall.—*Brainard H. Warner, jr., Consul, Leipzig, Germany, June 14, 1904.*

Drying Hosiery and Textiles.—A manufacturer in this district has invented a method of drying hosiery and textile articles which is considered a great improvement upon the usual methods. It is described as follows:

A drying chamber has a continuously traveling band which extends through inlet and outlet openings in the chamber and is driven by suitable gearing so arranged with change gear wheels or ratchet mechanism that the speed of the band can be varied according to the character of the goods to be dried. The drying chamber is also supplied with a heated-air current for drying the articles and carrying away the moisture, and this current may be produced by a fan or a chimney, and the air may be heated by passing over steam coils or through a furnace, or by like means. The traveling band may pass straight through the chamber, or it may be guided around rollers so that one part is higher than another, and the goods are turned over as they fall from one level to another. Another arrangement has a number of bands traveling in opposite directions, and the goods fall from one band to another until they pass from the chamber, while the air may be directed onto the goods to be dried by paper baffles or the like. The chief advantages of this method are that it is continuous and requires but a minimum of labor.—*Frank W. Mahin, Consul, Nottingham, England, July 8, 1904.*

German Experiment Station in Southern Brazil.—The board of directors of the German Colonial Society has appropriated $7,140, to be paid in three yearly installments, as an aid to the scientific experiment station which Dr. Hermann Meyer is soon to establish in the German colony of Neu-Würtemberg, Rio Grande do Sul, Brazil. This station is being organized for the purpose of making a large number of agricultural experiments. It is hoped that it will help the German colonists of the southern States of Brazil to secure better returns in the way of crops, which as yet, because of improper cultivation, have not been entirely satisfactory. About 250 acres, near the town of

Elsenau, have been secured for the experiment station, and on this a number of houses will be erected, which will serve as workshops and dwellings for those engaged in conducting the experiments.—*Southard P. Warner, Consular Agent, Gera, Germany, June 16, 1904.*

Agricultural Cooperation in Russia.—There are 220 agricultural cooperative associations in Russia. Some of them receive subsidies from the Government or the district council. These associations purchase, at wholesale, agricultural implements and machinery, seeds, breeding stock, etc., which are sold on credit or on the installment plan to the individual farmers. Agricultural exhibitions are held and lecturers are employed who go from place to place instructing the farmers in all branches of husbandry. Grounds are also set apart for experimenting by cultivating new plants. In many other ways the cooperative associations result beneficially for the Russian peasant.—*Richard Guenther, Consul-General, Frankfort, Germany, June 28, 1904.*

Wheat Crop of India.—According to the Government's final memorandum on the wheat crop of 1903–4 the season has been exceptionally favorable for wheat, and the good crop of last year has been exceeded by 20 per cent in area and 21 per cent in yield. In the principal wheat-growing tracts of northern India, where the crop is most prolific and from which the supplies for export are so largely drawn, the area is the largest on record, the excess over the highest other year being 975,000 acres in the United Provinces and 360,000 acres in the Punjab, where cultivation extended on the Chenab and Jhelum canals. In the matter of yield this crop stands preeminent, and the total, 9,390,000 tons, is 1,600,000 tons more than the large crop of 1902–3. The crop has been least successful in Bombay, but fortunately the unfavorable conditions were most prevalent where the area in wheat is not important, and Sind has had an extremely good crop.

The exports of wheat the last five years have been as follows: In 1899–1900, 485,204 tons; 1900–1901, 2,501 tons; 1901–2, 366,091 tons; 1902–3, 514,007 tons; 1903–4, 1,295,566 tons. Judging by the quantity exported from last year's crop (1,295,566 tons, or nearly 54,368,000 bushels) the export from the crop of this year—in which there have been large crops of all food grains, releasing wheat from home consumption—should be more than double that quantity, which will go to Europe and come into competition with the wheat exported from the United States.—*R. F. Patterson, Consul-General, Calcutta, India, June 9, 1904.*

Hungarian Emigration Regulations.—The official paper of the Hungarian State Government announces that the minister of internal affairs has granted a license to the Cunard Steamship Company (Limited), a ship concern in Liverpool, for the transoceanic transportation of emigrants from the whole territory of the country, via Fiume to New York. He has likewise given his approval to the said steamship company to be represented by the Adria Royal Hungarian Ocean Steamship Company (Limited) as its deputy in emigration matters, with full rights and responsibility before authorities as well as individuals. This notice means that a definite license supplanting the former temporary one has been granted, while, as reported, the contract made by the Cunard company with the Hungarian ministry of the interior has still to be tested by public opinion. The contract will probably not be sent to the Hungarian Parliament for legislative approval, inasmuch as the clause providing for a subsidy on the number of emigrants less than 30,000 shipped by the said company has been entirely dropped and compensation by executive measures has been substituted therefor.—*Frank Dyer Chester, Consul-General, Budapest, Hungary, June 27, 1904.*

Etiquette of Mexico.—It requires temerity and no small amount of self-confidence on the part of an immigrant to invade many of the communities of Mexico. The man, however, who comes from the United States dares enter anywhere and feels that he should be received as an honored guest. This, however, is the land of mañana—to-morrow—not for purposes of procrastination, as many erroneously suppose, but to learn who you are, what you are, what's your business, and which is the path of interest and gain.

A stranger might easily be ostracized, isolated, and debarred upon coming among such communities if, owing to his habits, his life, or some idiosyncrasy of manner, he failed to come in touch with them, to gain their confidence, and to secure their kindly sympathies. A good letter of introduction from some near friend of theirs, which speaks you fair, is of great value, accredits one at once, and obliterates mañana.

The newcomer makes all advances. Madam Calderón de la Barca, the wife of the minister of Spain to Mexico, writes: "There is one piece of etiquette entirely Mexican, nor can I imagine whence derived, by which it is ordained that all new arrivals, whatever their rank, foreign ministers not excepted, must, in solemn print, give notice to every family of any consideration in the capital that they have arrived, and put themselves and their homes at the disposition of the residents, failing in which etiquette the newly arrived family will remain unnoticed and unknown."—*William Headen, Consular Agent, Puebla, Mexico, July 14, 1904.*

Olive Culture in Spain.—According to official statistics, 3,294,646 acres were devoted to the cultivation of olive trees in Spain in 1903 against an average of 2,867.005 acres for the last ten years. In ten years there has been an increase of 518,919 acres in the land used for the production of olive trees. These 3,294,646 acres were divided among 33 provinces. In the following provinces the olive tree appears not to be cultivated, though undoubtedly it might be grown in some of them: Burgos, Canary Islands, Corunna, Guipúzcoa, Leon, Lugo, Orense, Oviedo, Palencia, Pontevedra, Santander, Segovia, Soria, Valladolid, Viscaya, and Zamora.

The 1903 crop has been fairly good. In one of the 33 provinces it has been classified as excellent, in six as good, in thirteen as middling, in twelve as bad, and in one (Badajoz) as very bad.

The olive-oil production in the last year fell considerably short, notwithstanding the increase in the area devoted to olives.—*R. M. Bartleman, Consul, Cadiz, Spain, June 24, 1904.*

Dredging Machines for Argentina.—Under date of June 14, 1904, United States Consul Brainard H. Warner, jr., of Leipzig, Germany, reports that the Compañia de Sutphen de Lavaderos de Oro, of Buenos Aires, is contemplating buying additional dredging machines, to be used upon work for which it has recently received orders. E. W. Sutphen, Buenos Aires, Argentina, is the head engineer of the company.

Wants of the Philippines.—The Austro-Hungarian consul at Manila reports that exporters will find a ready and good market there for cotton and linen goods, black woolen hosiery, white underwear, dress goods (half woolens for trousers), towels, leather, glassware (tumblers, liquor glasses, vases, etc.), smokers' articles, and bone buttons. Statistics up to date show no export from this port to the Philippine Islands. The export to Hongkong in 1903 amounted to over $100,000, and perhaps part of this was sent to the Philippines.—*F. La Guardia, Consular Agent, Fiume, Hungary, June 21, 1904.*

Argentina's Railroads.—German correspondents in Argentina report that the railway system of the Argentine Republic aggregates 11,875 miles, with 385 miles of subsidiary railroads. New railroads to the extent of 3,241 miles are projected, and 2,622 miles of lines are in course of construction. The material prosperity of the Republic has greatly increased. The receipts of all the railroads, which for the year 1903 amounted to $53,308,404 in gold, show an excess of more than $10,000,000 over those of 1902.—*Richard Guenther, Consul-General, Frankfort, Germany, July 6, 1904.*

Rotterdam to Basel by the Rhine.—The limited company for transport and towing at Ruhrort will, in the course of this summer, make a series of towing trials on the Rhine between Basel, Ruhrort, and Rotterdam. Recently the first twin-screw steamer of 400 horsepower, towing a boat laden with 500 tons of coal for the Basel gas works, arrived at that place. It is expected that after further dredging of the Rhine, which abounds in shallows, and when the regulation of the traffic, which has been begun, is established, a considerable animation in the freight business will take place as far as the Swiss frontier town of Basel. The coal industry in the coal district of Ruhr and Saar will first benefit, and on further development grain and petroleum, iron and ores will be forced to take the cheaper water route.

For the United States this route should one day be of great importance as an "entrance door" to Switzerland for its products in bulk, particularly for wood.—*Thomas Willing Peters, Consul-General, Saint Gall, Switzerland, July 8, 1904.*

Bituminous Coal Measures of British Columbia.—Under date of July 7, 1904, United States Consul-General Holloway, of Halifax, Nova Scotia, transmits the following interview, from the British Columbia Mining Record, with the senior member of a firm of Pittsburg coal-mining engineers who are installing a plant for the International Coal and Coke Company at Coleman, Northwest Territory:

> The bituminous coal measures of the International Coal and Coke Company are the largest I have ever seen. In Pennsylvania the largest seam in the famous Connelsville mine is 9 feet thick, while one of the seams at Coleman is fully 18 feet in thickness. The Coleman coal is clean, being free from slate and other foreign substances. The output of the International Company will be limited only by the number of plants the company chooses to build. The measures at Coleman are especially adapted for cheap mining for several generations. Unlike the Pennsylvania coal, the coal at Coleman can be mined and extracted by gravity. As the mines will be self-draining no pumping plant need be maintained. The plant will be modern and complete, compressed air being utilized in hauling the cars. Electrical machinery will also be used very extensively.

Military Plan of Venezuela.—The ministry names the following persons to compose the board of engineers that will design the military plan of Venezuela: Dr. Jesus Muños Tebar (president), Dr. Felipe Aguerrevere, Dr. Santiego Aguerrevere, Dr. Roberto Garcia, and Dr. Manuel Herrera Tevar.—*E. H. Plumacher, Consul, Maracaibo, Venezuela, July 14, 1904.*

Vintage of Spain.—In 1903 Spain produced 5,829,417,877 pounds of grapes on 3,558,277 acres. Almost all of it was made into wines.—*R. M. Bartleman, Consul, Cadiz, Spain, June 26, 1904.*

Artificial Rubies.—Artificial rubies are made by a process of the chemist Verneuil, by melting a mixture of clay and oxide of chromium at an even temperature of several thousand degrees. The two substances are carefully placed above each other in layers so as to prevent cracking in the crystallized mass.

It is stated that Verneuil finally succeeded in producing an artificial ruby weighing 5 pounds, which had a value of about $600. From this price it may be judged that the product is not first class, and probably just pays the costs of manufacture. In order to produce the exceedingly high temperature which is indispensable for success, Verneuil uses a blast of oxyhydrogen gas, which acts directly on the mass from the top. The hardness of the ruby is the result of quick cooling caused by sudden interruption of the blast of oxyhydrogen. The artificial ruby is said to be very pure and brilliant, possessing all the physical properties of natural rubies. It can be cut, and takes a very fine polish. In view of these assertions it seems singular that artificial rubies have no higher value, especially as the natural article is so exceedingly high-priced at present.—*Richard Guenther, Consul-General, Frankfort, Germany, July 6, 1904.*

Roumanian Industries.—The Austrian consul at Bukharest says in a late report that owing to the new protective tariff adopted by Roumania numerous new industries are being developed in that country which will cause the importation of all sorts of machinery. Among the projected factories are one for the manufacture of agricultural implements which will have a working capital of $579,000, a large soap factory at Bukharest, an oil factory at Galatz, a cellulose factory at Busteni, and an extensive factory for working up jute. The Roumanian Government contemplates the erection of powder mills and works for the production of sulphuric ether.

Roumania is almost unknown to American manufacturers, who, upon canvassing that market,.might open profitable business connections.—*Richard Guenther, Consul-General, Frankfort, Germany, June 30, 1904.*

Egg Tests.—A new and simple method for testing eggs is published in German papers. It is based upon the fact that the air chamber in the flat end of the egg increases with age. If the egg is placed in a saturated solution of common salt it will show an increasing inclination to float with the long axis vertical. A scale is attached to the vessel containing the salt solution so that the inclination of the floating egg toward the horizontal can be measured. In this way the age of the egg can be determined almost to a day. A fresh egg lies in a horizontal position at the bottom of the vessel; an egg from 3 to 5 days old shows an elevation of the flat end, so that its long axis forms an angle of 20 degrees. With an egg 8 days old the angle increases to 45 degrees; with an egg 14 days old to 60 degrees, and with one 3 weeks old to 75 degrees, while an egg a month old floats vertically upon the pointed end.—*Richard Guenther, Consul-General, Frankfort, Germany, July 6, 1904.*

Para Rubber in the Malay States.—So far as I am able to judge from press reports and from personal interviews with experienced persons the growing of Para rubber in the Malay States is not only proving successful, but in the very near future is likely to command the world's attention. The growth is continuous and, when the trees are cared for, is amazingly rapid, as heat is perpetual and rains frequent. As the Philippine Islands are in the same latitude and have vastly superior soil, I feel that everything should be done to encourage the development of rubber plantations in those islands.—*O. F. Williams, Consul-General, Singapore, Straits Settlements, June 23, 1904.*

Extension of Guatemalan Telegraph and Telephone System.—The Guatemalan Government is considering the advisability of making a considerable extension of its present telephone and telegraph system. The indications are that it will do so.—*Brainard H. Warner, jr., Consul, Leipzig, Germany, June 14, 1904.*

Proposed Electric Railroad in Argentina.—A movement is now on foot to organize a company for the purpose of building an electric railroad at Rosario, a city of about 122,000 inhabitants, in the Province of Santa Fé, Argentina.—*Brainard H. Warner, jr., Consul, Leipzig, Germany, June 14, 1904.*

American Prunes in Europe.—The Hungarian official pomological organ states in its latest number that the enormous supply and peculiar soft condition of American prunes in Europe has awakened a lively interest everywhere of late. This organ states that an examination of such prunes was made in Germany, and that they were declared to be soaked with a fluid containing from 10 to 12 per cent of glycerin to artificially increase their size and weight. The organ quoted goes on to warn Hungarian buyers against all American preserved fruits, and to call American fruit merchants "profit seeking and officious." It is evident from the foregoing that there is a market, even in Hungary, for American prunes, and that each shipment should be accompanied by a certificate of purity from some chamber of commerce or board of health, and so well packed as to prevent repacking by middlemen in Europe.—*Frank Dyer Chester, Consul-General, Budapest, Hungary, June 30, 1904.*

Osmon, a New Fuel.—Osmon, a new fuel, is made from peat. The peat used contains 90 per cent of water, of which 20 to 25 per cent is removed by means of an electric current. The peat is then further dried and passed through a machine which breaks it up and forms it into briquettes or nut-shaped pieces. Osmon is free from sulphur and burns without slag or smoke.— *Walter Schumann, Consul, Mainz, Germany, July 13, 1904.*

Greek Exports to the United States.—From the report of Mr. Keck, the French consular agent at Kalamata, Greece, it appears that the export trade from Kalamata to the United States is increasing. Mr. Keck refers to the large quantities of currants which are sent to the United States, and to the exportation of about $40,000 worth of various kinds of cheese, and about $7,300 worth of hides, as well as the exportation of figs and various other articles (olives, olive oil, etc.). More than 7,000,000 pounds of currants were exported from Kalamata to the United States in 1903, and Mr. Keck thinks that a part of the currants shipped at Patras came from the Kalamata district. In speaking of importation, Mr. Keck refers to the quantities of German articles brought to Kalamata as more or less dominating the market on account of their cheapness and of the easy terms accorded to the Greek buyer. He mentions the large number of German commercial travelers in the district.—*John B. Jackson, Minister, Athens, Greece, July 7, 1904.*

Wooded Areas of European Countries.—The percentage of the wooded areas of European countries, as compared with their total areas, is as follows: Finland, 51.2; Sweden, 49.3; Russia, 40.4; Austria, 32.6; Luxemburg, 29.1; Hungary, 27.7; Germany, 26.1; Servia, 24.9; Turkey, 23.4; Norway, 22; Roumania and Switzerland, 21.4 each; Bulgaria, 20.8. The other European countries have less than 20 per cent of woodland. England has the smallest wooded area, 3.6 per cent.—*Richard Guenther, Consul-General, Frankfort, Germany, June 28, 1904.*

Drainage of Spezia, Italy.—The municipality of Spezia, Italy, has voted a sum of $1,930 to be awarded as a premium to the competitor who presents the best drainage scheme for Spezia and its suburbs. The competition remains open until December 31, 1905.—*Marshal Halstead, Consul, Birmingham, England, July 19, 1904.*

Silk Industry of Hungary.—Hungary raised 3,755,800 pounds of silk cocoons in 1903. Five silk-spinning works exported in the same year $850,000 worth of silk yarn. New spinneries are to be built in Lugos and Mohács.—*Richard Guenther, Consul-General, Frankfort, Germany, July 9, 1904.*

International Flag Courtesy in Peru. There was recently issued by the ministry of foreign relations of Peru a decree regulating the use of the national flag on stated occasions of international courtesy. The decree provides that the Peruvian national ensign shall be hoisted on all public offices on the annual national holiday of such foreign nations as show the same courtesy to Peru; and further, that whenever the chiefs of state (chief magistrates) of such nations die, all Peruvian public offices shall fly the national ensign at half-mast, and that all public functionaries may attend the funeral or memorial services held according to the customary rite of the foreign nation in question.

The first of the two clauses above quoted was, I take pleasure in reporting, applied for the first time yesterday, the Fourth of July.—*A. L. M. Gottschalk, Consul, Callao, Peru, July 5, 1904.*

Russian Export Tariff on Waste Rubber.—A note from United States Consul-General Watts, of St. Petersburg, relative to the imposition of an export duty by the Russian Government on rubber waste, was printed in Daily Consular Reports for July 26 (No. 2013). At the request of some leading rubber manufacturers, who were in doubt as to whether the duty had already been put in force, the Department of State cabled the United States minister at St. Petersburg for positive information on the subject, and received the following return cablegram, dated August 4:

> Informed by Russian Government that time when new export duty on rubber waste becomes operative not yet fixed; probably very soon, in view of conclusion of Russo-German commercial treaty.—McCORMICK.

Tenders for Canada.—The department of public works, Ottawa, invites tenders for the construction of a steel towboat for the Fraser River, British Columbia.

The Canadian Pacific Railway is opening a large anthracite coal mine at Banff, Northwest Territory, and invites tenders for driving a tunnel 1,200 feet long.—*W. R. Holloway, Consul-General, Halifax, Nova Scotia, July 7, 1904.*

Foreign Trade of Greece in 1903.—According to Nachrichten für Handel und Industrie, a leading German commercial paper, in its issue of July 5, 1904, the official figures for the foreign trade of Greece during 1903 were as follows:

Imports and exports of Greece, 1902 and 1903.

Articles.	Imports.		Exports.	
	1902	1903	1902	1903
Living animals	$759,098	$1,152,049	$44,297	$62,498
Animal products	1,013,015	997,118	888,271	793,080
Fish	1,187,391	1,146,966	215,284	136,935
Farm products	7,777,950	7,979,548	6,545,771	7,338,072
Oils	218,764	568,721	1,488,351	951,864
Forest products	2,786,393	1,861,787	615,654	517,704
Minerals and metals, raw	2,786,393	2,784,136	3,672,748	3,561,015
Drugs and chemicals	1,328,902	1,392,689	191,618	177,375
Hides	249,478	209,445	63,148	63,169
Sugar, etc	402,638	554,236	162,025	79,544
Wine	94,954	84,038	1,028,004	2,216,890
Yarns	3,657,505	3,607,282	42,622	46,810
Straw goods	349,437	401,361	1,266	1,030
Pottery and glassware	330,916	366,230	9,238	5,674
Minerals, manufactured	1,435,858	1,415,570	335,515	250,704
Musical and scientific apparatus	165,891	342,024	10	97
Paper	530,982	603,166	4,554	5,326
All others	958,456	883,938	158,032	84,609
Total	26,034,021	26,350,304	15,466,408	16,292,392

Mines in Spain.—During 1903 the mines in Spain employed 94,351 workingmen, and 1,006 machines run by steam, of 33,229 horsepower in the aggregate. The minerals extracted represent a value of $34,740,000.

In the division of improvements, 146 factories, with 83 hydraulic machines and 502 machines run by steam, were in operation, the former developing 3,340 horsepower, the latter 38,569. This division comprised a force of 22,488 laborers, while the value of the products was $38,117,500. In this total the various forms of iron produced had, according to the Nuevo Mundo, a value of $9,939,500; the lead, $7,237,500; the silver-bearing lead, $4,439,000, and the copper more than $6,176,000.—*R. M. Bartleman, Consul, Cadiz, Spain, July 22, 1904.*

Wages in Krupp Works, Germany.—Consul-General Richard Guenther, Frankfort, Germany, reports, under date of July 21, that according to the published statement of the Krupp Works the total number of persons employed by the firm on April 1, 1904, including 4,190 officials, was 45,289. Of these the cast-steel works at Essen employed 25,041, the Gruson Works at Buckau 3,329, the Germania ship-building yard at Kiel 2,811, the coal mines 7,877, the iron mines, etc., 6,231.

The average daily wages in the cast-steel works were as follows:

Average daily wages in Krupp cast-steel works, 1853–1903.

Year.	Daily wage.	Year.	Daily wage.
1853	$0.32	1890	$0.85
1860	.49	1900	1.14
1870	.73	1901	1.00
1875	.93	1902	1.08
1879	.72	1903	1.09

Dynamite Monopoly in Mexico.—Great interest was aroused in mining circles in Mexico and the United States last year by the announcement that the newly organized Compañia Nacional de Dinamitos y Explosivos of Mexico had been conceded by the Government a virtually prohibitive duty upon dynamite. There was some discussion in mining circles over the certainty of the price of dynamite rising much higher, but it was semiofficially announced that this would not be permitted. The principal factory of the new company is at Colton, a few miles from the main line of the Mexican Central Railroad, slightly north of Gomez Palacio, in the State of Durango. It is to begin operation on August 1. It is understood that other factories will be built elsewhere in the country as the demand for dynamite and powder increases. With the imposition of the new tariff the market of the California and St. Louis powder and dynamite manufacturers, who have been supplying Mexico, will gradually be cut off.—*James A. LeRoy, Consul, Durango, Mexico, July 25, 1904.*

German Capital in Foreign Countries.—During the first half of the present year $238,186,000 worth of new bonds and shares were taken up by the German market, of which foreign securities amounted to $23,202,600. The following were the German issues: shares of industrial joint-stock companies, $40,100,600; bank stocks, $14,163,400; bonds of mortgage banks, $65,450,000; municipal loans, $37,030,400; Government bonds, $44,146,600. Next to England and France, Germany is the greatest creditor nation of the world; that is, has the largest amount of capital invested in foreign countries. This investment of capital has, in the main, occurred within the last 30 years and has been principally derived from the profits on the Empire's exports, manufactures, and ocean carrying trade. Though Germany has not the natural resources in raw materials which some of her competitors have, her bankers, shippers, merchants, and commercial travelers make up for the deficiency by ability, energy, and intelligently directed efforts to invest in foreign enterprise.—*Richard Guenther, Consul-General, Frankfort, Germany, July 12, 1904.*

Influence of Asiatic War on Commerce.—Accounts from Warsaw state that the Russian volunteer merchant fleet carried, in 1903, over 3,000 freight consignments from Poland to eastern Asia, an increase of 200 per cent over the preceding year. The Russian railroads and transportation companies, in order to strengthen this export trade against foreign competitors in the Chinese market, had not only reduced the regular freight rates on these consignments, but had even advanced as much as 80 per cent cash on their value to the shipper, also in many cases assuming the agency for the sale of the goods at stations in China. By that means the manufacturers of Poland and Russia were in a fair way to compete successfully with Americans and Japanese, who mainly supplied those markets. But the war with Japan has unsettled trade in Manchuria, and the ground gained by the Polish and Russian export trade has been lost.—*Richard Guenther, Consul-General, Frankfort, Germany, June 30, 1904.*

Guhrolit, a New Artificial Building Stone.—The firm of Jenequel & Hayn, of Hamburg, Germany, have patented a process for manufacturing an artificial building stone from infusorial earth, which they call guhrolit. This stone is very light, is fireproof, withstands the influence of most chemicals, and can be easily sawed, nailed, and bored.—*Walter Schumann, Consul, Mainz, Germany, July 13, 1904.*

Public Works in Panama.—The Department of Commerce and Labor is advised by the Department of State, under date of August 1, 1904, that the Panama Government has approved a contract with the United Fruit Company, an American corporation, for the construction of a railway or canal in the province of Bocas del Toro, Panama, to connect the Changuinola and Saxaola rivers.

Emigration Through Hamburg.—During the first six months of this year 69,353 persons emigrated by sea from the port of Hamburg. Fifty-three thousand one hundred and fifty-five of these went to the United States, 6,116 to British North America, 514 to Brazil, 653 to Argentina, 1,522 to Africa, 76 to Asia, and about 6,200 (nearly all being Russians) to England. Of these emigrants 49,519 were males, 19,834 females.—*Richard Guenther, Consul-General, Frankfort, Germany, July 22, 1904.*

Wealth of the Transvaal.—The Transvaal colony in South Africa is rich not only in gold, but also in other metals which have received no attention during the Boer régime. The first step in the exploitation course has just been taken by erecting a furnace for smelting iron ore near Pretoria. Large deposits of this metal and of coal and limestone abound there in close proximity. It is contemplated to start a rolling mill and other iron works in the same region.—*Richard Guenther, Consul-General, Frankfort, Germany, July 21, 1904.*

Hay, Straw, and Corn wanted in Hungary.—United States Consul Frank Dyer Chester, Budapest, Hungary, in a cablegram dated August 9, 1904, states, "There is an opening here for hay, straw, and corn, via Fiume."

German Methods of Securing Trade.—A report sent by the German consul at Rio Grande do Sul, Brazil, to his Government contains some passages which may afford instruction to the many manufacturers in the United States who feel an inclination to introduce their goods into foreign markets.

The consul says: "The import trade of Rio Grande do Sul is mainly in the control of German wholesale merchants, who have covered the country with a network of branch houses, agencies, and commercial travelers. These wholesale merchants have a thorough knowledge of the prevailing tastes of the Brazilian consumer and of the difficulties and intricacies of the Brazilian customs laws and their administration. They are also ably supported by the manufacturers and exporting firms in Germany, who have on their staff men of long training in Brazilian business firms. The sending out of catalogues, price lists, and written invitations to the firms of Rio Grande do Sul is of little use, as such communications receive no attention."—*Richard Guenther, Consul-General, Frankfort, Germany, July 18, 1904.*

New Ocean Cable Lines in the Orient.—A group of German and Dutch capitalists, bankers, and merchants have formed a joint stock company for the purpose of constructing and operating a new ocean telegraph line whose cables are to connect the island of Celebes (Dutch East Indies) with the island of Yap, whence one cable is to reach Shanghai, the other the island of Guam, where it communicates with the Pacific cable of the Commercial Cable Company. The working capital of this new line is $1,666,000; the estimated cost of the cable lines, $3,451,000. From the Governments of Holland and Germany the company is to receive a total annual subvention of $452,200. The official name of the new concern is the German-Netherlands Telegraph Company. Its central office is at Cologne.—*Richard Guenther, Consul-General, Frankfort, Germany, July 22, 1904.*

Strikes in Canada.—The loss of time to employees through trade disputes throughout Canada during June was approximately 62,488 working days. This is an increase of nearly 30,000 days compared with the previous month, and is largely accounted for by a strike of iron and steel workers at Sydney, Nova Scotia, in which 39,000 working days were lost. In June, 1903, there was a loss of 122,612 working days, about 60,000 more than in the present year.

Three disputes ended in favor of the employers and three in favor of the strikers. Four disputes ended in compromises satisfactory to both parties, and in the remaining case, which concerned the employment of nonunionists, the difference ceased with the initiation of the new employees into the union.—*W. R. Holloway, Consul-General, Halifax, Nova Scotia, August 2, 1904.*

Scandinavian Customs Union.—A strong movement is now going on in the commercial and industrial circles of Sweden, Norway, and Denmark to establish a Scandinavian customs union. It is believed that thereby the economic interests of the three countries would be much advanced, as unitedly they would present a power whose weight would tell in trade relations with foreign countries. The union would thus be of much benefit by stimulating and strengthening the production of the countries, providing for better transportation facilities, and obtaining good foreign markets.—*Richard Guenther, Consul-General, Frankfort, Germany, July 21, 1904.*

Transit through Venezuela to Colombia.—Transit through the port of Ciudad Bolivar of foreign merchandise destined for the Colombian town Orocué has been authorized. This action is of great value to Colombia, which country has for many years past been deprived of this convenient means of communication with parts of its interior. The press here considers it as a marked proof of the sincerity of the renewed friendship between the two countries.—*Mathias Brewer, Acting Consul, La Guaira, Venezuela, July 16, 1904.*

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58TH CONGRESS
2d Session

HOUSE OF REPRESENTATIVES

DOCUMENT
No. 785

DEPARTMENT OF COMMERCE AND LABOR
BUREAU OF STATISTICS

No. 288

MONTHLY CONSULAR REPORTS

SEPTEMBER, 1904

WASHINGTON
GOVERNMENT PRINTING OFFICE
1904

MONTHLY CONSULAR REPORTS.

SEPTEMBER, 1904. No. 288.

CONCENTRATION OF GERMAN BANKS.

The Swiss official commercial journal (Schweizerisches Handelsamtsblatt) of July 12, published in Bern, has an article from the Zürich Kredit Bank on the question of concentration among the German banks. It says that the concentration in the German banking business during the years 1890–1899 may be seen in the following table of balances on December 31, 1899, published by the great Berlin Institute (a banking concern):

Table of balances of German banks, December 31, 1899.

Bank.	Capital.	Reserve.	Foreign money.	Balance.
Bank für Handel und Industrie	$24,990,000	$5,302,702	$13,962,960	$56,018,467
Berlin Handelsgesellschaft	21,420,000	5,902,400	19,430,304	62,353,676
Deutsche Bank	35,700,000	11,130,554	114,227,436	206,782,348
Diskonto-Gesellschaft	30,940,000	8,824,225	40,997,000	103,332,336
Dresden Bank	30,940,000	8,092,000	63,091,431	137,999,505

The total capital stock of these five banks had increased from $80,920,000 in 1890 to $143,990,000 in 1899, and the balances from $304,640,000 to $566,440,000. The year 1899 was the last year of what is known as the "era of progress and prosperity." A falling off began in the spring of 1900. It began on the exchanges, went thence into all the principal lines of industry, spreading farther and farther in the following year until the most acute crisis was reached in all circles of credit, resulting in the failure of different hypothecating branches and finally reaching its culminating point in the disastrous failure of the Leipzig Bank.

But, singular as it may seem, the expanding efforts of the great banks were not retarded by this tremendous crisis. Everyone will remember how on the 25th day of June, 1901, when the board of directors of the Leipzig Bank published their inability to meet their creditors, the Deutsche Bank announced by telegraph the establishment of a branch bank in Leipzig. This gave that institution an opportunity to secure a large part of the regular trade of the failing Leipzig Bank. The failure of the Dresden Kreditengesellschaft and the desire to fasten a firm foot in the capital of Saxony (Dresden) caused the Deutsche Bank to transform a private firm of that city into a branch of its own business. In the year 1902 the Deutsche Bank took over the Duisburg Ruhrorter Bank of Duisburg and Düsseldorf, taking nearly all of the stock of this banking institution in exchange for its own stock, after increasing its capital stock from $35,700,000 to $38,080,000. Later it exchanged a part of its stock for stock in the Essen Kredit Gesellschaft, thereby connecting itself closely with that institution. The plan of the Deutsche Bank, revealed only a short time ago, to take over and liquidate the affairs of the Berlin Bank in Berlin by means of exchange of capital stock proved at the last moment impossible. The effort, however, made in connection with this movement to increase the capital by some $4,760,000 was successful.

In contrast with the Deutsche Bank, the Dresden Bank during and shortly after the crisis remained passive. It was directly affected by the movement then going on in Saxony, and needed time to assemble its powers. After doing this it established branches in Mannheim and Chemnitz and, later, banks of deposit in various places, but no increase of capital was connected with this movement. In the year 1903 the desire for expansion was again noticeable. At first the Dresden Bank created common interests by taking on shares of banks in Mülheim-on-the-Ruhr, in Bochum, and in Bonn, but the principal movements in the carrying out of its expansion plans took place in 1903, in which a thirty-year arrangement with the Schaafhausenscher Bankverein of Cologne was effected in such manner that the two banks were nominally independent, although their business was to be carried on in common. It was arranged also to have the profits thrown into the common treasury and afterward divided in accordance with the capital stock and the resources. The Dresden Bank took part in the transformation of the banking firm of Speyer & Co., in Basel, into a stock company by taking half of the capital stock.

The combined Dresden Bank and the Schaafhausenscher Bank of Cologne are still further expanding at the present time. The Dresden Bank established a branch in Frankfort-on-the-Main by taking over a banking house of that city. It has taken over also, by exchanging stock, the Deutsche Genossenschaft Bank and Soergel Parrisius & Co., in Berlin and Frankfort-on-the-Main, increasing its capital stock some $7,140,000. The Schaafhausenscher Bank has taken over also the Niederrheinische Kreditanstalt, of Krefeld, and the West German Bank, of Bonn, at the same time increasing its capital stock $5,950,000. The Dresden-Schaafhausenscher combination, since this last transaction, will have a total capitalization such as has never been recorded in the annals of banks on a stock basis.

The Diskonto-Gesellschaft (Discount Society) has, since the last crisis, been struggling toward expansion. The death of the only stockholder of the house of Rothschilds in Frankfort-on-the-Main gave it an opportunity to establish a branch there, taking over the customers and the widespread coupon service of this firm, and thus increasing its sphere of work in South Germany. At the same time it increased its capital stock from $30,940,000 to $35,700,000. In the year 1902 the Diskonto Gesellschaft sought to expand its relations with the Rhineland and Westphalia by participating in the work of the Rheinische Diskonto-Gesellschaft. Last year it established a branch in Bremen by the absorption of a private firm of that city. By this transaction it increased its capital stock from $35,700,000 to $40,460,000.

From this time on the efforts of the Bank für Handel und Industrie (Darmstädter Bank) toward expansion were not less intensive. In the year 1901 it opened branches in Hanover and Strassburg and banks of deposit in various other cities. In the following year the Darmstädter Bank took over the bank for South Germany in Darmstadt and associated itself, through exchange of stock, with the Breslau Discount Bank, of Breslau, letting the Berlin branch of this Breslau bank go into liquidation. Through this association the Darmstädter Bank entered into close relations with the Ostbank für Handel und Gewerbe, in Posen, taking over a certain part of its stock. In connection with this expansion the capital stock was increased from $25,228,000 to $31,416,000. This institution had connections with the gold industry of South Africa through the possession of a large amount of stock of the Consolidated Mines Selection Company.

The Berlin Handelsgesellschaft did not abandon the principle of express centralization. This made possible a very conservative policy in the increase of the company's capital, which has gone up in five years something like $2,380,000.

The transformations in the balance sheets of the different banks during and after the crisis are very interesting. The following table shows that the foreign moneys in German banks which were thought to be least affected by the crisis were increased very considerably in the years 1899-1901, while the increase in other banks was much more moderate. In the Dresden Bank, with its principal office in Dresden, the very center of the crisis, one finds considerable falling off in foreign moneys. Still greater was the falling off in the newer Berlin banking institutions, because confidence in these was diminished. The changes in the total balances and in the year's results were not less marked, as will also be seen from the following table:

Deposits of foreign moneys, balances, and dividends of important German banks, 1899–1903.

FOREIGN MONEY.

Bank.	1899	1901	1903
Bank für Handel und Industrie	$13,963,460	$19,016,200	$34,636,140
Berlin Handelsgesellschaft	19,489,820	21,945,980	40,141,080
Deutsche Bank	114,228,100	150,001,880	187,870,060
Diskonto-Gesellschaft	40,997,880	53,288,200	59,195,360
Dresden Bank	63,091,420	54,563,880	77,511,840
BALANCES.			
Bank für Handel und Industrie	$56,018,060	$60,923,240	$88,238,500
Berlin Handelgesellschaft	62,353,620	65,783,200	73,937,080
Deutsche Bank	206,781,540	237,331,220	590,064,880
Diskonto-Gesellschaft	103,332,460	122,700,900	141,919,400
Dresden Bank	137,999,540	120,768,340	151,091,920
DIVIDENDS (PER CENT).			
Bank für Handel und Industrie	7	4	6
Berlin Handelsgesellschaft	9.5	7	8
Deutsche Bank	11	11	11
Diskonto-Gesellschaft	10	8	8.5
Dresden Bank	9	4	7

It is thus noticeable that the greatest banks of credit of a country are not immune to the influences of industrial crises, particularly when they play a distinguished part in serving industrial and commercial concerns and are not satisfied to act as reservoirs for the piling up of foreign money, as is particularly the case with the German banking institutions. But the great Berlin banks were strong enough to withstand the contests victoriously, and their development, though not always directly upward, was still ultimately toward the top. Their success in securing business and in extending their influence in every direction will be seen from the following table, which gives the total business during the last thirty years (the Bank für Handel und Industrie does not give its total business in the year's report):

Total business of German banks, 1872–1903.

Bank.	1872	1879	1889	1899	1903
Berlin Handelsgesellschaft	$321,649,860	$162,418,340	$1,100,657,180	$1,403,226,580	$1,680,553,700
Deutsche Bank	688,124,640	2,102,668,120	6,693,809,500	12,083,329,020	14,194,346,180
Diskonto-Gesellschaft	1,708,797,160	1,099,655,200	8,248,269,220	2,630,059,460	5,086,614,540
Dresden Bank	....	351,752,100	2,394,396,620	6,703,300,940	6,967,852,220

The stockholders have good cause to be satisfied with the results of their undertakings. Only in very few cases have they been without normal dividends. The difference between the highest and lowest tabulations in the different decades is remarkable. A tendency toward reducing these differences in the size of dividends and as far as possible securing stability is, however, very noticeable. The following comparative statement of dividends from 1872 to 1903, inclusive, will prove interesting. The last column has only a theoretical value; the average of a long period may be deceptive, particularly when this average is greater than the average dividend of the last five or ten years.

Dividends of German banks, 1872–1903 (per cent).

Bank.	1872-1880			1881-1890			1891-1900			1901-1903			1872-1903		
	Highest.	Lowest.	Average.	Highest.	Lowest.	Average.	Highest.	Lowest.	Average.	Highest.	Lowest.	Average.	Highest.	Lowest.	Average.
Bank für Handel und Industrie	15	6	8.8	10.5	6.5	8.25	8.25	5.25	6.8	6	4	5.3	15	4	7.7
Berlin Handelsgesellschaft	12.5	....	4.6	12	....	7.9	9.5	5	7.8	8	7	7.5	12.5	....	6.9
Deutsche Bank	10	3	6.4	10.5	9	9.4	11	8	9.6	11	11	11	11	3	8.8
Diskonto-Gesellschaft	27	4	10.6	14	10	11.1	10	6	8.7	8.5	8	8.3	27	4	9.9
Dresden Bank (1873–1903)	9	1.5	6.2	11	7	8.4	9	5.5	7.8	7	4	5.6	11	1.5	7.4

Whether the concentration in the banking business now going on will satisfy the longings and hopes of those interested, and whether the exclusion of the middle classes from this line of business is satisfactory to the people, is a question that must be answered by the future.

CATTLE RAISING IN PARAGUAY.

According to Export, a German paper published in Berlin and devoted chiefly to the export trade, of July 21, 1904, Paraguay's principal product is cattle. In the awful years 1864 to 1870 Paraguay's 2,000,000 head of cattle fell off to 15,000. Thirty-three years of peace have seen the Republic rise to a position beyond that occupied before 1864. To-day there are 3,500,000 head in its fields.

A quadrat legua (about 4,633 acres) will support 600 to 800 cattle—in some cases even more—which gives from 5.7 to 7.4 acres to each animal. In Argentina, where land is dearer, 1,000 head are assigned to each quadrat legua, but at the expense of both beef and land. If one compares the Paraguayan cattle fields with those of German South Africa, where each head of cattle has to have 99 acres, which is thought by some to be much less than is really needed, an idea is obtained of the difference in favor of the Paraguayan ranchers. To be sure, the southwest African land is sold for less than 12 cents an acre, while the Paraguayan pasturage sells for 24 to 30 cents an acre; yet the land necessary to support one animal in southwest Africa costs nearly $10, while it costs less than $2 in Paraguay.

On good land cattle will double in four years; in exceptional cases the increase will be 35 per cent annually (that is, the cattle will more than double in three years), although the ranchman is usually satisfied to note an annual gain of 20 to 25 per cent. The quadrat legua (4,633 acres) in Paraguay costs generally from $1,000 to $1,500. Land lying near the Paraguay River or near a railroad sells for $2,500 a quadrat legua. Good land near the navigable rivers has doubled in price during the last ten years.

Estimates made by competent persons put the profits of Paraguayan cattle raising beyond peradventure. An investment of $6,000 to $10,000 in a ranch will result in a yearly profit of 20 per cent. An investment of $75,000 in the stocking of a ranch with 8,000 to 10,000 head of cattle will yield 12 to 15 per cent per annum and more. In very favorable cases, particularly when the manager of the ranch is the actual owner of the land, the possible profit is put as high as 20 to 25 or even 40 per cent.

One must not imagine that ranching in Paraguay is a new thing. It is not. There are a great many large companies operating in all parts of the Republic, some of which have thousands of cattle. Efforts are being made not only to increase the herds numerically, but to improve the breeds. The prospects were never so bright as now. The demand for meat, even in South America, is constantly increasing. In 1900 the value of Argentina's export of beef products was nearly $30,000,000, and in 1901 the value was nearly $44,880,000. What is true of Argentina and Paraguay is just as true of Uruguay and the State of Rio Grande in Brazil.

Since a large part of Argentina is adapted to sheep raising and may be taken for that purpose, and since large parcels of land in Uruguay and Argentina are being taken for agricultural purposes, for raising cereals, vegetables, etc., a time is coming when Paraguay's hinterland will have to be taken to supply the wants once supplied by these lands now being turned over to more intensive forms of farming. Even Matto-Grosso in Brazil will be wanted for the raising of cattle. The statistics of recent years show that Uruguay and Argentina have reached the limit of their powers as cattle raisers, for while the export of frozen sheep carcasses from Argentina advanced from 1,932,697 in 1896 to 3,429,222 in 1902, the number of pickled beeves fell off from 449,400 to 440,400. The exports of live cattle fell off, too, while the number of live sheep exported went up from 25,746 in 1901 to 122,501 in 1902.

The live stock of Argentina in 1895 was estimated as follows: beef cattle, 20,000,000; sheep, 75,000,000; horses, 5,000,000. Compared with those for 1885 these figures show a falling off in beeves of 200,000 head. A 1904 census covering four of the principal provinces, Buenos Aires, Santa Fé, Cordoba, and Entre Rios, shows a still further falling off, from 12,860,386 to 12,600,708. In all, the falling off in Argentina cattle in the last fourteen years has been fully 500,000 head. Thus the outlook for Paraguayan ranches is remarkably bright. Their products can easily be placed on the ships or in the markets along the La Plata River.

The greatest triumph of Paraguay's industrial efforts was recorded when she erected two large slaughterhouses, each with a capacity of 300 head of cattle daily.

The prices of cattle in Paraguay show a constant tendency to increase. In 1890, when the value of the paper peso was about 40 cents, the average price for young bulls was 24 pesos ($9.60) each; for cows, 20 pesos, ($8); in 1903 the prevailing price for young bulls was 100 pesos ($10.71), the paper peso being then at 10.71 cents, and for cows 90 pesos ($9.64), an increase of about 15 per cent in thirteen years.

Cattle census of the several countries.

Country.	Number of inhabitants.	Date of census.	Number of cattle.	
			Total.	Per capita.
Uruguay	964,577	1900	6,827,428	7.078
Paraguay	535,571	1903	3,500,000	6.535
Argentina	4,894,149	1895	22,000,000	4.495
Australia	4,356,273	1900	10,128,496	2.325
Bosnia	1,737,000	1895	1,416,000	.815
Canada	5,372,051	1891	4,120,586	.767
Denmark	2,449,540	1898	1,749,313	.714
United States	86,895,576	1902	61,424,599	.707
Sweden	5,175,228	1900	2,582,555	.499
Cape Colony	2,433,000	1899	1,077,044	.443
Norway	2,221,477	1900	950,201	.428
Roumania	6,081,572	1900	2,589,040	.426
Switzerland	3,327,336	1901	1,340,375	.403
France	38,961,945	1901	14,673,810	.377
Servia	2,535,915	1900	942,087	.371
Austria	26,150,708	1900	9,507,626	.364
Hungary	19,254,559	1895	6,738,000	.350
European Russia, including Poland but not Finland	102,868,833	1900	35,916,857	.349
Germany	58,549,000	1900	18,939,692	.324
Netherlands	5,263,232	1900	1,655,600	.314
British India	295,215,256	1901	87,188,923	.295
Great Britain and Ireland	41,605,801	1901	11,477,824	.276
Belgium	6,693,810	1900	1,675,000	.250
Algeria	4,789,331	1900	992,551	.207
Italy	32,475,253	1890	5,000,000	.154
Spain	18,618,086	1895	2,218,000	.119
Portugal	5,428,659	1882	625,000	.115
Japan	47,646,810	1900	1,490,833	.031
Total	832,500,548	....	318,747,540	.382

A glance at the past in Paraguay is very interesting. At the beginning of the last century land was granted to settlers in many cases for nothing. The only things charged for in a transfer of lands were the cattle and farm fixtures, household and other effects. For example, a farm in Santa Fé comprising a fraction more than 90 square miles, containing 8,000 cattle and 15,000 horses, sold for $6,069. The 8,000 cattle were valued at less than 50 cents each, and the 15,000 horses, incredible as it may seem, were valued at 12 cents each. Of course the money of that time was worth much more than the money of the present. Nevertheless we are certainly warranted in regarding Paraguay's past as full of remarkable opportunity and her future as exceedingly hopeful.

When one contrasts the past, as pictured in the example cited above, with a day in the present century, when 50,400 pesos (nearly $21,400) were paid for 20 head of cattle raised in Argentina and bought for breeding purposes, the change seems truly wonderful.

EMIGRATION FROM ITALY.

(From United States Vice-Consul Byington, Naples, Italy.)

The third annual report of the Italian commissioner-general of emigration to the Chamber of Deputies contains much interesting information.

It is stated that as a result of the great current of emigration the Italian population abroad is constantly increasing. A calculation of the number of Italians living in foreign countries was made by the ministry of foreign affairs in 1881 and 1891; and in 1901 a similar calculation was made by the commissioner-general of emigration from a study of the last general census of the population of the Kingdom. Certain of the elements used in the calculation were also taken from the censuses of foreign countries and from estimates made by the Italian consuls of the number of Italians resident in their territories. From these sources it has been ascertained that there were 1,032,392 Italians living abroad in 1881, 1,983,206 in 1891, and 3,439,014 in 1901. Of the latter number, 654,000 were scattered over Europe; 168,000 were in Africa (Tunis, 83,000; Algeria, 39,000; Egypt, 38,000); 745,000 were in North America (729,000 in the United States and 11,000 in Canada), and 1,852,000 were in South America (618,000 in Argentina and 1,100,000 in Brazil). The relation between the number of emigrants departing from Italy and the number of persons of the same class returning is given in the following table:

Emigrants departing from and returning to Italy, 1902 and 1903.

Countries.	1902			1903		
	Departures.	Returns.	Per cent returned.	Departures.	Returns.	Per cent returned.
United States	191,767	52,000	27	214,157	78,233	37
La Plata (Argentina and Uruguay)	30,395	23,813	78	39,763	26,813	67
Brazil	23,479	29,701	127	10,515	29,740	283
Central America	475	1,018	214	956	1,050	110

According to the Italian law, the departure of Italian emigrants from foreign ports is in general prohibited. Exception has, however, been made in the case of the French Compagnie Générale Transatlantique, which carries Italian emigrants from Havre to New York, for the reason that every year 12,000 to 14,000 emigrants go from northern Italy to New York, who, paying the same passage money, including railroad fare, save five or six days in the trip to New York by sailing from Havre instead of Genoa.

In his report the Italian commissioner-general of emigration states that emigration is a necessity for Italy, and if it were not for this safety valve, this possibility of finding occupation elsewhere, grave disorders would occur against the public peace, for the reason that existing territory and capital in Italy are not sufficient to give occupation to the mass of the people. There is no doubt, he says, that economic progress is being made in Italy in agriculture as well as in the industries—in some parts of the country more, in other parts less. Anyone who can give good security can always find credit. Nevertheless, it is evident that the supply of hands exceeds the demand. It is necessary that progress along certain mental and moral lines keep pace with increase in capital, in order that industrial expansion may take place, and since the spirit of enterprise and association, professional instruction, and good faith in commerce can not easily be spread impromptu, it is sometimes necessary to export labor.

Emigration, then, assumes an economic usefulness in different ways, direct and indirect; above all, through the savings that emigrants send home or bring back with them for the relief of their families, for acquiring land and bettering it, and for building houses, all of which increase the well-being of the villages which send forth emigrants. Indirectly emigration stimulates property owners in parts of Italy where labor is becoming scarce to introduce modifications in the rotation of crops, the employment of machinery, the use of chemical fertilizers, etc., by which progress can be realized. Property owners in certain sections complain that the land is being abandoned for lack of workers and that merchandise is becoming dearer. It happens not rarely that landowners fail to give active attention to these matters until they find their property deserted. Even then the vacancies are speedily filled from surrounding provinces if the wages are made somewhat higher.

It is fortunate for Italy, the commissioner-general remarks, that the United States can always employ a large number of Italian workmen, especially now that times are hard in Brazil, and Argentina is not what it was some time ago. The United States, the report continues in substance, is in a period of extraordinary expansion, and there are no signs that this prosperity is likely to decline. At present there is not so much to fear from a decline in affairs through hard times in the United States as through the influence of the so-called "labor party," which is trying to check labor competition from countries where pay is low and whose laborers refuse to accord with that standard of living to which the American workman is accustomed. If the illiteracy clause had been inserted in the United States immigration law lately passed, Italian immigration into the United States would have been reduced one-half. Prudent politics, says the report, should anticipate the time when the mass of emigrants can not find work as easily as at present in that great country, and when they who guide the current of emigration will have to find new roads and new openings. The report reviews the possibilities for the employment of hands in the Italian African colony, Eritrea, and refers to inquiries made by the Italian Government in Argentina and Brazil with a similar view.

The necessity is urged for providing elementary instruction for adults in provinces from which emigration is greatest. This is proposed with a view to overcoming difficulties in case an illiteracy clause should be added to the present United States immigration law. Under the spur of this menaced prohibition, the report reads, the minister of public instruction has thought of accelerating the teaching of adults in those provinces of the Kingdom from which the largest numbers of emigrants go to the United States, and where there is the highest proportion of illiterate persons. Thus the emigrants before leaving may learn how to read and write. Having found it possible to allow for this purpose $19,300 from his own balance, the minister of public instruction asks the commissioner-general of emigration if he could provide the sum of $9,650 from the emigration fund, and with both sums he proposes to open the campaign, so to speak, by engaging the services of a sufficient number of teachers in the communes where there is the greatest need.

The report of the commissioner-general of emigration states that from September, 1901, to March, 1904, more than 162,000 emigrants left Italy for North and South American ports with prepaid tickets, that is, tickets received from friends or relatives abroad. The proportion of prepaid tickets is one-quarter of the total number, and, in the case of the Prince Line, for New York, the proportion of prepaid tickets was nearly one-half the number of tickets.

The report records that the Banco di Napoli, recognized by Italian law as a suitable depository for emigrants' money, had, in 1903, established 44 branches in the United States. These banks received $1,436,252 of such money in 1902, and $3,583,511 in 1903.

HOMER M. BYINGTON, *Vice-Consul.*

NAPLES, ITALY, *July 11, 1904.*

NEW ZEALAND'S PREFERENTIAL TRADE ACT.

(*From United States Consul-General Holloway, Halifax, Nova Scotia.*)

The Dominion government has received the text of the preferential and reciprocal trade act recently adopted by the parliament of New Zealand, the provisions of which are applicable to Canada as well as to other portions of the Empire. In its operation the act is not confined entirely to the British Empire, as clause 13 says that when any country not part of the British dominions reduces or abolishes, or purposes to reduce or abolish, the duty on any product or manufacture of New Zealand the governor may enter into an agreement with that country to reduce or abolish the duty on any articles the produce or manufacture of such country, to such an extent that the estimated revenue so remitted shall equal as nearly as possible the estimated revenue remitted by that country. No such agreement, however, is to have effect until ratified by parliament.

In connection with this clause the colonial secretary informed the governor, the Earl of Ranfurly, then in London:

> I assume that your ministers realize that any advantage which may be granted to a foreign government in future by virtue of any reciprocal arrangement under section 13 can not be withheld from a third foreign power entitled by treaty to the most-favored-nation treatment in New Zealand.

There are three schedules to the new act. In the first one is cement, the duty on which, when imported from foreign countries, is doubled.

This change is intended to benefit the cement industry in Canada, as it gives its manufacturers an advantage of 48 cents a barrel over American manufacturers, the existing duty being 48 cents.

On the following articles, which appear in the second schedule, the existing duties are increased 50 per cent. The following list shows the duties on Canadian and on foreign goods:

New Zealand preferential tariff, second schedule.

Articles.	Duty on—	
	Canadian goods.	Foreign goods.
Basket and wicker ware, not being furniture....per cent..	20	30
Bicycles, tricycles, and like vehicles, finished or partly finished, including weldless steel tubing cut to short lengths....per cent..	22½	33¾
Boots, shoes, slippers, goloshes, clogs, patterns, vamps, uppers, and laces, per cent....	22½	33¾
Candles....per pound..	$0.02	$0.03
Carriages, carts, drays, wagons, and perambulators, and wheels for the same, per cent....	20	30
China, porcelain, and parian ware....per cent..	20	30
Clocks....do....	20	30
Cordage and rope, not elsewhere specified....do....	20	30
Cream of tartar....per pound..	$0.02	$0.03
Earthenware, stoneware, and brown ware....per cent..	20	30
Fancy goods and toys....do....	20	30
Firearms of all kinds....do....	20	30
Fish, potted and preserved....per pound..	$0.04	$0.06
Furniture and cabinetware other than iron, not elsewhere specified..per cent..	25	37
Glass, crown, sheet, and common window....per 100 superficial feet..	$0.49	$0.73
Glassware, plate and polished glass, colored, and other kinds, not elsewhere specified, globes and chimneys for lamps....per cent..	20	30
Hardware, ironmongery, and hollow ware....do....	20	30
Hops....per pound..	$0.12	$0.18
Iron nails....per 112 pounds..	$0.48	$0.72
Iron pipes and fittings for same, including main cocks....per cent..	5	7½
Lamps, lanterns, and lampwicks....do....	20	30
Musical instruments, viz, pianos....do....	20	30
Paper hangings, paper, wrapping, viz, blue candle, glazed cap, glazed casings, small hand, lumber hand, and tissue....per 112 pounds..	$1.22	$1.83
Paper, wrapping, other kinds, including brown, cartridge, and sugar papers, per 112 pounds....	$1.22	$1.83
Plate and plated ware....per cent..	20	30
Pumps, and other apparatus for raising water....do....	20	30

On the following articles, which appear in the third schedule, the existing duties are increased by 30 per cent; most of them were dutiable at 20 per cent, so that the foreign duty will now be 25 per cent:

Fittings for bicycles and tricycles, viz, all rubber tires, pneumatic tires, outside covers and inner tubes, rubber and cork handles, pedal rubbers, drop forgings and stampings, ball bearings, weldless steel tube in full lengths, rims, forks, and spokes in the rough; gas engines and hammers and oil engines; gum boots; iron and steel cordage; iron, plain black sheet, rod, bolt, bar, and plate; iron wire netting; printing paper; rails for railways and tramways; sailcloth, canvas, and unbleached double-warped duck; surgical and dental instruments and appliances.

W. R. HOLLOWAY, *Consul-General.*

HALIFAX, NOVA SCOTIA, *August 4, 1904.*

PETROLEUM TRADE IN GERMANY, ENGLAND, AND INDIA.

(*From United States Consul Pitcairn, Hamburg, Germany.*)

HOSTILITY TOWARD THE GERMAN-AMERICAN PETROLEUM COMPANY.

Since the large German banking firms have taken active interest in the development of competition with American petroleum, according to an article which recently appeared in one of the local daily newspapers, the war against the expansion tendencies of the German-American Petroleum Company at Bremen and Hamburg is being conducted with great energy. It is chiefly desired to influence the authorities to render the establishment of oil-tank plants as difficult as possible by the representative of the American oil trust. The chambers of commerce in Germany in several instances take a standpoint decidedly in favor of the competitors of the oil trust. The chamber of commerce of Giessen regrets bitterly that the German-American Petroleum Company has obtained permission for the erecting of oil tanks at several stations within its district, and praises the position maintained by the municipal authorities of Giessen, who refused to grant a license for the establishment of a tank plant with pipes conducted under a municipal highway. Likewise the chamber of commerce for the district of Bromberg, Province of Posen, to encourage German competition, has requested the railroad administration not to lease or assign any property to the German-American Petroleum Company for the establishment of tank plants. The Bromberg railroad division only complied with such request in so far as to order that available property be let only if a possibility for competing enterprises to establish similar plants on the stations in question could be warranted. Under the circumstances, should there be no such opening, the granting of licenses to the German-American Petroleum Company for the establishment of tank plants would, indeed, mean a considerable advantage over German competitors, and thus create for said company almost a local monopoly in various places.

RUSSIAN PETROLEUM IN ENGLAND.

The imports of Russian petroleum into England show a considerable increase during the first half of the year 1904, the Russian oil gradually crowding out the American product. The imports from Russia during that period amounted to 78,836,000 gallons, exceeding the American imports by about 13,000,000 gallons.

PETROLEUM IN INDIA.

The universal rivalry in the oil trade gradually ceases to affect East India, because the Burmese petroleum industry is so rapidly growing, being no longer controlled by the trusts. The imports have decreased from 91,000,000 gallons in 1901-2 to 71,000,000 gallons in 1903-4. Prices and freight rates have been detrimental to the American product, the imports of which have considerably decreased, and which has now become an article of luxury. Trade in Russian petroleum is also decreasing, which is partly due to the influx of Straits oil, but chiefly to the increasing production of Burmese petroleum, the consumption of which has more than doubled within two years, and in 1903–4 reached 40,000,000 gallons out of an approximate total consumption of 110,000,000 gallons.

A new pipe system from the oil fields to Rangoon, the putting into commission of new tank steamers, and the establishment of tank plants in East India will, doubtless, serve to further increase Burmese petroleum trade.

HUGH PITCAIRN, *Consul-General.*

HAMBURG, GERMANY, *July 29, 1904.*

KOREA AND ITS FUTURE.

(*From British Trade Journal, August 1, 1904.*)

A most important market in the Far East, which will become of even greater importance when the Russo-Japanese war is concluded, is that of Korea. English interests there have always been considerable since the country was thrown open to foreigners; and the appearance a few days ago of a foreign office report by Vice-Consul Lay on the trade of Korea during 1903 is most opportune. Mr. Lay points out that the expansion of business in Korea, especially since the Chino-Japanese conflict in 1894, has been remarkable, though not greater than the capacity of the peninsula might have led one to expect, and since the improvement in transportation facilities and means of intercommunication during the last four or five years progress has been still more accentuated. The total imports last year amounted to £1,859,900 [$9,051,203], against £1,382,400 [$6,727,450] in 1892 and £437,600 [$2,129,580] a decade ago. This is a notable rise, and the growth of exports, though less rapid, has been no less pronounced. In 1903 the figures were £967,500 [$4,708,339], against £846,000 [$4,117,059] in the previous year; but in 1894 they were only £316,000 [$1,537,814]. All this business was done through the treaty ports; but in addition a considerable trade was done in other ports and across the frontier with China and Russia. The bulk of the trade is in Japanese hands. The geographical relation of the two countries renders that inevitable, and the practical monopoly enjoyed by the Japanese of the shipping service makes it difficult to encroach on their holding. A British line between Chinese, Japanese, and Korean ports would be of great assistance in extending our commercial interests in Korea, and the prospects of founding such a line appear more favorable than ever just now. Five years ago not a single vessel flying the British flag entered a Korean port, and the number in 1903 was only seven, but the present year promises to see a very great improvement on this record.

Korea affords an excellent market for rail and tramway material, and it is to be hoped that English capitalists will not be lacking in any enterprise connected with such undertakings. Even now we are supplying a considerable share of the plants required by railways and electric works, and a large percentage of the cotton manufactures imported are of English origin. These textile commodities have always been the leading feature of our dealings with Korea, and though our position was somewhat imperiled seven or eight years ago by Japanese rivalry and the negligence of our merchants to accommodate themselves to the wishes of customers, Mr. Lay is able to write to-day, "It is gratifying to note that Manchester goods more than maintained their ground in competition with the cheaper Japanese shirtings of inferior quality." We are still unable to compete in yarns, which are practically all supplied by Japan, chiefly, it appears, because we persist in twisting from right to left, whereas yarn twisted in the opposite direction is what is required.

Many of the imports classed as from Japan and China may be of British origin; and it is therefore difficult to state the precise proportion of goods supplied to Korea from this country. In 1890 the consul estimated it at 57 per cent, the Japanese share being 19 per cent. At present the proportions may be reversed. The outlook for increasing business for British merchants, however, appears fairly good, and on the conclusion of the war the opportunities of foreign traders will be greatly improved, for the internal conditions of Korea will be more favorable to the absorption and distribution of commodities, and Japan will not be able to meet that larger demand single handed. Direct steamship communication and access to the Yalu would vastly enhance England's commercial chances, and the reformation of the currency would remove one of the greatest obstacles to the smooth working of trade. "Nothing is further from the truth than that Korea is a poor country," says Mr. Lay, and a stable and intelligent government should soon turn the resources of the peninsula to account.

QUEBEC, WESTERN, AND ATLANTIC RAILWAY.

(*From United States Consul Dickson, Gaspé, Canada.*)

The projected railway under the above title was organized in England some time ago. The company has obtained a Dominion charter and subsidy of $6,400 a mile from the Federal Government, also a grant of land of 4,000 acres a mile from the legislature of the Province of Quebec, with a proviso that they must sell the land to bona fide settlers at a maxium price of $2 an acre. The road is to run from a point at or near Gaspé village to a point at or near Causapcal, connecting there with the Intercolonial Railway. The direct distance is about 100 miles, but on account of the mountainous district it will go through the road will be about 170 miles in length.

The main object of this line, it is understood, is to connect with a line of fast steamers to Great Britain, thus avoiding the dangers of the St. Lawrence River and also gaining some twenty-four hours in time over the present route from Montreal.

The same company has undertaken to build the remaining portion of the line along the Gaspé coast, a distance of about 100 miles, to connect with the existing Atlantic and Lake Superior Railway, in operation between Matapedia and Paspebiac, in the county of Bonaventure. This will be a very expensive piece of road to build, as it will cross five or six rivers at their mouths, necessitating the erection of costly bridges. The company's charter demands that it build this section simultaneously with the Quebec, Western and Atlantic section under penalty of forfeiture of the charter. No work has been done on either section so far, except the making of the surveys.

A general meeting of the shareholders is to be held here very soon, when it is supposed that arrangements will be made to give out contracts and commence operations.

There is at present no railway within 100 miles of Gaspé, which has no communication with the outer world for five months in the year except by stage.

ALMAR F. DICKSON, *Consul.*

GASPÉ, CANADA, *August 1, 1904.*

BRITISH PUBLIC HOUSE TRUST.

(*From United States Consul Mahin, Nottingham, England.*)

An enterprise in this country which may result in important changes in the habits of the people and in the conduct of a vast business is styled the Central Public House Trust Association.

The public house of Great Britain is essentially the same as the saloon of the United States. There is the marked difference, however, that in Great Britain women are almost as numerous as men at the drinking bars, and that the bartenders are usually young women. It is argued for the barmaids that their presence tends to preserve order, but no defense of female dram drinking is attempted.

The public house trust is a trust in the interest of the community and not for private profit. Its object is to reduce intemperance by changing the ordinary methods of conducting public houses.

The origin of the enterprise dates back to 1877, when Rev. Osbert Mordaunt, on his appointment to a parish in Warwickshire, found himself the trustee of a village inn left by a predecessor in trust for the parish. He decided to run the inn according to what is known as the "Gothenburg" system, a system which, it is claimed, transformed Norway from the most drunken to the most sober country in Europe—the main principles adopted being that the liquor should be of good quality and the manager should have no interest in increasing its sale. This experiment was followed by others, notably that at Elan Valley, where the Birmingham waterworks committee established a canteen for the use of its workmen, which led to the formation by the Bishop of Chester and Colonel Craufurd, in 1896, of the People's Refreshment House Association. Its aim was "to give wider facilities for the adoption of the system of public house management, with limited profits, already successfully at work in various parts of the United Kingdom."

The successful experiments of the People's Refreshment House Association led Lord Grey, in 1901, to form, purely as a propagandist society, the Central Public House Trust Association, for the purpose of inaugurating a public house trust company in every county, the county as a unit being an essential feature of the scheme. Beginning with Northumberland, Kent, Durham, and North Yorkshire, local trusts have now been established in every county in England except Leicestershire, Oxfordshire, Berkshire, and Buckinghamshire. Trusts have also been formed in Ulster (Ireland) and in South Wales. In Scotland, where the movement has established itself strongly and a number of trust companies are working, a Scottish Central Association has been formed this year to spread trust principles and to regulate public opinion with the view of arriving at the best form of public management.

At the present time about one hundred and fifty public houses are under trust management. This number is likely to be largely increased in the near future, as landowners are more and more appreciating the advantages to a village or neighborhood of trust management and are offering their public houses to the local trusts as the present tenancy agreements expire.

The underlying principles enforced by the Public House Trust Association are as follows:

> The general arrangement and management of the house shall be on the lines of a house of refreshment, instead of a mere drinking bar.
>
> Food and a good variety of nonintoxicant drinks shall be as easily accessible to customers as beer and spirits.
>
> The licensing laws enacted by Parliament for the regulation of public houses and the promotion of temperance shall be most strictly carried out in every particular.
>
> A holder of a license is in a sense a servant of the public, and he must study the comfort, well-being, and health of his customers; his house must therefore be scrupulously clean, and the rooms most used by the public must be comfortably arranged, well warmed in winter, and well ventilated.

The manager of the house receives a fixed salary, with inducements to push the trade in food and nonintoxicants, but with no interest in the sale of alcoholics.

A system of inspection guards against abuses and mismanagement. An inspector visits the house without previous notice, takes samples of the liquors, examines the quality of the food and drink, and goes thoroughly over the premises.

It is not the purpose to establish new public houses, but only to acquire such as are already established, except in the case of new licenses which the authorities intend granting—these the association will try to secure. It may, however, open new refreshment rooms for the sale of food and nonintoxicants.

The capital is raised by subscriptions for shares in the trust companies formed in the various counties. The total subscribed capital at present amounts to $1,500,000. The company in each county is governed by a council, of which the lord lieutenant of the county is ex officio the head, and by trustees, directors, and other officers, among whom are usually the most distinguished men of the country. The total number of subscribing members is now nearly 1,000. The shares are allotted on such conditions as to give the council a voting power, enabling it to prevent the trust from getting into the control of persons who might use it for their private purposes. The maximum dividend payable to the shareholders is 5 per cent, the surplus profits being devoted to public objects.

The net profits of the public houses in the United Kingdom last year are estimated at about $100,000,000, nearly $2.50 per head of the population. The profit of an average public house is indicated by the fact that several trust houses last year distributed to objects of public benefit surplus profits ranging from $1,500 to $5,000. These, unlike the ordinary public houses, made special efforts to sell the least profitable things—food and nonalcoholics.

From all parts of the British Isles where trust houses exist come reports of less disorder and drunkenness, decreased use of alcoholics, and a general improvement in the character and appearance of such resorts and of their patrons.

In this county (Nottingham) the trust has sixty-five correspondents, who have volunteered their services, and who advise the secretary of all opportunities of securing public houses now existing. The work was begun here only last year, and the trust does not yet own any houses, though it expects substantial results from the efforts of its correspondents. A great obstacle in the way, existing as well in all parts of Great Britain, is the system of "tied" houses—those owned or financed by breweries. This system has been in existence in a sporadic way for the past fifty years, but latterly it has grown to enormous dimensions, owing partly to home brewing having declined, but mainly to the conversion of most of the large breweries into limited companies. An article in the Quarterly Review describing the evolution of the "tied" system has special interest not only because of its relation to the public house trust, but also because the subject is now vigorously discussed in connection with the licensing bill before the present session of Parliament. The article says:

> About twenty years ago the partners in the great concern of Guinness & Co. (makers of stout) decided to offer their business to the public. No sooner was the prospectus issued than the phenomenal success of the venture was apparent. The shares were subscribed for many times over, and afterwards rose in value to something like three times the issue price. The other large breweries in the country were not long in adopting the same policy, and one after another their undertakings were sold to the public at enormous premiums. The directors in each case found themselves with a large margin of capital on their hands, in excess of what could be profitably employed in the business proper, for which it was necessary to find an outlet that would bring increased trade and secure the larger profits required to provide a dividend on the larger capital. The outlet was found in the purchase of public houses in which to sell the liquor brewed by the company—an expedient which provided a profitable investment for capital as well as a means of increasing the trade. The competition between rival companies to secure houses became acute, and the prices of licensed houses were forced up to extraordinarily inflated figures, of which the following, among innumerable instances, will serve as a fair illustration: The Crooked Billet, a fully licensed house in Newcastle-on-Tyne, was put up to auction in 1896. The first bid was for £10,000 [$48,665], and it was knocked down for £15,800 [over $76,801]. The same house forty years earlier had been sold for £900 [$4,380], and no important structural improvements had been made in the interval.

The Review writer concludes that such conditions increase the temptation to push sales of beer by even illegitimate means, as a brewery, having paid a high price for a house, naturally expects the tenant to sell enough beer to return a dividend on the watered capital. It is charged, besides, that, having secured an outlet for their product, brewers pay less attention to quality and careful making than when their beer competed in a free market. The system appears to be condemned universally, except by those directly interested in its profits.

At present nearly 80 per cent of the English public houses are "tied." How to detach these is the most serious problem confronting the trust. It never expects to gain control of all the public houses in the United Kingdom, but its work will be imperfect unless it can control more than the proportion of houses now outside the "tied" system.

It should be explained that the public house trust is entirely distinct from any of the "temperance" societies of this country, which generally favor policies looking to the complete extinction of the liquor traffic.

Among the members and liberal subscribers to the funds of the central association are a number of Americans, widely known for their interest in philanthropic works.

FRANK W. MAHIN, *Consul.*

NOTTINGHAM, ENGLAND, *July 27, 1904.*

TWENTY-FIFTH ANNIVERSARY OF ELECTRIC TRANSPORTATION IN GERMANY.

(*From United States Consul-General Guenther, Frankfort, Germany.*)

The Frankfurter Zeitung of July 25, 1904, states that the electric roads celebrate their twenty-fifth anniversary this year. In 1879, at the Berlin trade exhibition, Siemens and Halske, of Berlin, operated the first electric locomotive on a circular track about 1,000 feet long. The road was opened May 31, 1879. That day must be considered the birthday of electric transportation in Germany.

The progress made since then is shown in the statistical report of the Electrotechnical Journal, just published. There existed in Germany, October 31, 1903, 134 main centers (cities or districts) for electric roads, against 42, August 1, 1896. The total mileage in 1903 was 2,308 miles, the total length of single track being 3,438 miles. The number of motor cars was 8,702, of trailers 6,190.

Almost everywhere the trolley system prevails. Dresden has still the mixed system—trolley and accumulators. In Berlin, Dresden, and Düsseldorf some lines have underground traction. Only in the Palatinate and on a line at Bremerhaven the accumulator system prevails. It is expected, however, that these lines will soon do away with accumulators. On the street railways electricity is almost universal, only 33 miles, or about 2 per cent, being still operated by horses.

The substitution of electricity for steam on the branch railroads made little progress last year, only about 5 per cent of these branches having been converted into electric roads, although it is expected that on account of the favorable results thus far attained more changes will follow.

Projects for converting regular railroads into electric are likely to succeed, among them that of the Berlin-Hamburg line.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *July 25, 1904.*

POPULATION OF MOSCOW.

(*From United States Consul Smith, Moscow, Russia.*)

According to the last official census (1902), Moscow (excluding suburbs) has a population of 1,092,362, which is classified according to native tongue and creed as follows:

According to native tongue: Russians, 1,040,929; Germans, 17,676; Poles, 10,507; Tartars, 5,315; Jews, 4,656; French, 2,732; Armenians, 1,692; English, 789; 35 nationalities, with colonies of from 10 to 200 people, 8,066—a total of 1,092,362.

According to creed: Orthodox Russians, 1,014,815; orthodox Russians (old believers), 18,110; minor religious sects, 126; Catholics, 17,050; Lutherans, 21,596; Reformed Church, 1,831; Anglican Church, 639; Armenian-Gregorian Church, 1,844; Jews, 9,049; Caraimes, 385; Mohammedans, 5,667; unclassified, 1,250.

SAMUEL SMITH, *Consul.*

MOSCOW, RUSSIA, *July 25, 1904.*

BANANA TRADE AT HALIFAX.

(*From United States Consul-General Holloway, Halifax, Nova Scotia.*)

There is a large and increasing trade at Halifax in tropical fruits, which are largely supplied by Boston dealers, though there are occasional importations direct from the West Indies.

The Boston dealers are now proposing to sell bananas, which form a large percentage of the purchases, by weight instead of by bunches, as heretofore. Selling by weight will necessitate increased handling of the fruit by the jobbers, thereby subjecting it to extra risk from bruising, and will put them to the expense of installing overhead trolley scales like those used by butchers for weighing whole carcasses, and the buyer and seller will have to judge the quality, two or three grades being established, at different prices. The business will be conducted on principle instead of by the present rule-of-thumb method. In estimating, quality, size, color, and firmness have to be taken into consideration. The trade do not like what are called "razorbacks," or skinny, seamy bananas. For nice, plump fruit the trade would willingly pay one-fourth more, as the razorbacks are of poor flavor.

The large dealers here have special buildings where green bananas are hung and ripened by heat. The trade this season has been very good. Prices are high and the supply has been equal to the requirements, although at times orders have been cut down.

There has been some inquiry from the United States at this consulate as to the market for banana flour, but it is not known to the Halifax trade.

W. R. HOLLOWAY, *Consul-General.*

HALIFAX, NOVA SCOTIA, *August 9, 1904.*

COTTON CULTURE IN SPAIN.

(*From United States Vice-Consul Summers, Madrid, Spain.*)

In view of the high prices of cotton last fall, due to the cornering of that commodity by certain capitalists, the majority of the manufactories in the province of Catalonia, which depended on American cotton in a large degree, were closed, and many thousands of workmen were thrown out of employment for a considerable length of time.

The state of affairs was discussed freely and widely in the Spanish press, and in order to avoid a repetition of such occurrences committees were appointed to study the question. It is known that in certain parts of Spain cotton thrives, and in view of this fact the council of state has passed and the King has approved decrees subsidizing the growing of this very important article. Lands used in cotton growing are to be exempted from all taxation, and money prizes for goods made of home-grown cotton are to be paid.

I am told by various planters, especially in Andalusia, that a fair crop will be raised this year, and if the venture is successful, as it undoubtedly will be, large portions of land now dedicated to other purposes will be utilized for cotton growing.

MADDIN SUMMERS, *Vice-Consul.*

MADRID, SPAIN, *July 25, 1904.*

USE OF MOTORS IN SWEDISH FISHERIES.

(From United States Consul Bergh, Gothenburg, Sweden.)

The fisheries of this country showed some improvement during the past year, compared with 1902. The greater number of the fishermen retain their old-time boats, but English fishing cutters have been bought by some. Some of the cutters are used for carrying freight along the coast. The only steam trawler hailing from Gothenburg is selling its catches mostly in England and Holland, where the people are more used to fish caught and handled this way and pay more for them. The company owning the trawler will buy another steamer, which shows that this method of fishing has been found profitable. It is said that the company has received a dividend of 10 per cent, besides which another 10 per cent has been added to the reserve fund.

A good many of the fishermen buy petroleum motors for their boats or cutters, some from Denmark and some from the mechanical works at Lysekil. The motors are expensive, but save so much work and delay at sea that they are still considered advantageous. I think that the first motors used by the fishermen here were made in the United States. Boat motors are now made at several places in Sweden, however, and Denmark seems also to have gained a market here. The Northern Fisheries Exposition, to be held next month, in the city of Marstrand, is expected to make the fishermen more familiar with the advantages of boat motors and to increase the demand for them.

ROBERT S. S. BERGH, *Consul.*

GOTHENBURG, SWEDEN, *June 20, 1904.*

BONUS OFFERED FOR NEW INDUSTRY IN ITALY.

(From United States Consular Agent Warner, Gera, Germany.)

A reward of $38,600, payable in annual installments, ranging from $2,895 the first year to $965 the last year, is offered for the establishment of a new industry in Ascoli Piceno, Italy, which will give employment to at least 150 persons during the first two years, 200 during the third and fourth years, and 300 persons thereafter. Detailed information may be obtained by addressing La Direzione della Cassa di Risparmio, Ascoli Piceno, Italy.

The city of Ascoli Piceno, which is the capital of Ascoli Province, is situated in the eastern part of Italy, perhaps 20 miles from San Benedetto del Sconto, on the Adriatic Sea, and 55 miles south of Ancona, with both of which places it is connected by railroads. Its population is about 30,000, and its chief industries are flour mills, brickyards, and china and woodwork factories. It has an excellent agricultural school and a normal school for girls. Labor in Ascoli Piceno is said to be very cheap.

SOUTHARD PARKER WARNER, *Consular Agent.*

GERA. GERMANY. *July 25, 1904.*

AMERICAN ENTERPRISES IN HONDURAS.

(*From United States Consul Alger, Puerto Cortes, Honduras.*)

The George D. Emory Company, of Boston, and C. C. Mengel & Bro., of Louisville, are engaged in the cutting and exportation of mahogany and cedar in Honduras. Both of these companies have largely increased their plants, and the coming year should see their output of the past year tripled or quadrupled. The last year has seen some six or seven new banana plantations started on a large scale by American companies. A new line of steamers managed by Americans runs here, and during the coming year two more lines will probably be initiated, which will assure the sale of the increased product of bananas. Not only are plantations being made on the line of the railway and for a hundred miles into the interior, but the coast, from the Guatemala boundary (the Motagua River) east, is also being developed, and to a large extent by American capital. I think it would be safe to predict that within the next two years at least 75 per cent of the banana business of Honduras will be owned and handled by Americans, with American capital; also that if the enterprises are properly managed the results will be such as to please the stockholders of the various companies. The great drawback to the success of American enterprises in the Tropics has always been bad management, 90 per cent of the funds being squandered by managers sent from the United States ignorant of tropical conditions, unable to speak or write the language, and in many cases intemperate.

WILLIAM E. ALGER, *Consul.*

PUERTO CORTES, HONDURAS, *July 10, 1904.*

RUSSIAN LIFE INSURANCE STATISTICS FOR 1903.

(*From United States Consul Smith, Moscow, Russia.*)

The following figures illustrate the activity of Russian and foreign life insurance companies in Russia in 1903:

Life insurance companies.	Number of policies.	Amount of insurance.
RUSSIAN.		
General Life Insurance Company (founded 1900)	4,287	$5,678,163
Insurance Company "Rossia" (founded 1881)	3,251	5,191,330
Russian Insurance Company (founded 1835)	2,699	3,819,100
Russian Insurance Company (founded 1901)	2,127	3,803,055
Insurance Company "Jakor" (founded 1872)	1,652	1,855,533
St. Petersburg Insurance Company (founded 1858)	902	1,118,700
Insurance Company "Solicitude" (founded 1892)	446	536,685
Total	15,364	22,002,566
FOREIGN.		
New York Life Insurance Company (operating in Russia since 1885)	4,987	10,469,010
Equitable Life Insurance Company (operating in Russia since 1890)	1,924	3,753,600
L'Urbain Insurance Company (operating in Russia since 1889)	1,535	3,098,225
Total	8,446	17,320,835
Total Russian and foreign companies	23,810	39,321,401

SAMUEL SMITH, *Consul.*

MOSCOW, RUSSIA, *July 25, 1904.*

BRITISH AGRICULTURE

(*From United States Consul Stephens, Plymouth, England.*)

The report for 1903 on the acreage and production of crops and the number of live stock in Great Britain has just been published by the board of agriculture.

Of the 56,675,000 acres which form Great Britain, exclusive of foreshore and tidal water, over 32,225,000 acres are under crops and grass, and 12,675,000 acres are accounted for as being mountain and heather land used for grazing, while 2,675,000 acres are occupied by woods and plantations, and 500,000 acres are covered by inland waters. Only 16 per cent of the surface remains to be accounted for. A portion of this, the report says, is not susceptible of cultivation; some of it is in small holdings not included in the annual returns, and still more of it is used for residential, commercial, industrial, and recreative purposes.

It will be observed, therefore, that all but a comparatively small portion of the surface of the island is utilized. Much more of it would be used were it not for the present land laws. There is a tendency to reduce the number of large farms. The average English holding varies in different counties, from 123 acres in Northumberland to 45 acres in Cornwall. The reduction in the area of land under the plow in Great Britain, which has continued annually since 1875, with only three slight checks, still continues. Last year a further withdrawal of 172,000 acres from cultivation was recorded. In this district there are many thousands of acres of splendid land which the people would be glad to cultivate, and for which they would pay, if allowed, reasonable rentals, but their offers are refused, and the wide tracts of land are kept by the lords for hunting grounds.

Although many farmers no longer find it profitable to devote a large part of their holdings to wheat or barley, they grow oats, the land devoted to which last year increased by 83,000 acres. Oats now cover more than one-fifth of the total arable area of Great Britain, the area under oats being only 300,000 acres less than that under wheat and barley combined. Grass land now includes nearly 17,000,000 acres, exclusive of 13,000,000 acres returned as mountain and heather land used for grazing. In England and Wales the increase was general, and in some counties, notably Devon, Gloucester, and Wiltshire, it was considerable.

The increase in pasture land has been followed by the augmentation of the number of cattle by 149,000 head during the year. In every county in England except Derby an increase was recorded. Devon and Somerset show an appreciable augmentation. The number of sheep declined in England but increased in Wales. In Devon the number was very high.

The report speaks of the unpopularity of English wheat, which has sold at about 15 cents a bushel less than foreign wheat. No doubt its cultivation will decline. Its quality is inferior. There was also a fall in the price of barley and oats last year, which brought heavy losses to many farmers.

It is often contended that the agriculturist should devote himself to supplying the country with butter, of which 200,000 tons are imported yearly from other countries. Even Iceland and Greenland now appear among the countries providing England with butter, while Russia alone contributes more than a third of the total number of eggs imported into Great Britain.

JOS. G. STEPHENS, *Consul.*

PLYMOUTH, ENGLAND, *July 27, 1904.*

SEWING MACHINE MAKING IN CANADA.

(*From United States Commercial Agent Johnson, Stanbridge, Canada.*)

The Singer Sewing Machine Company, of New York, have decided to locate at St. Johns, Quebec. Their factory will be the largest of the kind in Canada. The entire Canadian output of the company will be manufactured at this factory, and it will be an important addition to Canadian industries. Work upon the buildings will be pushed, and it is expected that the plant will be in operation before the end of the year. The contract for the erection of the new factories has been awarded to Messrs. James and Alexander Stewart, of the firm of James Stewart & Co., contractors and builders, of New York and Chicago, and work has commenced. The contract price is in the vicinity of $1,500,000, and when the buildings are completed the company will employ something like 2,000 men. The buildings cover 30 acres of ground, and will be built of steel and cement.

The contract for fireproofing the buildings has been awarded to the Clinton Fireproofing Company, of New York, who, with the Clinton Wire Cloth Company, of Boston, are to make Montreal their headquarters for Canada, and will open offices and yards there through which all their Canadian business will be handled. They expect to employ in all from 300 to 500 men.

FELIX S. S. JOHNSON, *Commercial Agent.*

STANBRIDGE, CANADA, *August 8, 1904.*

DOGFISH PEST IN CANADA.

(*From United States Consul-General Holloway, Halifax, Nova Scotia.*)

The minister of marine and fisheries has determined on a plan to rid coastal waters of the dogfish pest that has been causing such havoc among the fisheries during the last few seasons. After considering the proposal for a government bounty on dogfish, to encourage the fishermen to exterminate the species, the minister has concluded that this method offers no prospect of complete success, and has decided, instead, to establish three reduction plants to convert the fish into fertilizer and glue. One will be erected in northern New Brunswick, another will be on the southern coast of Cape Breton, and a third will probably be on the Magdalene Islands. They will cost $9,000 each, and the government will itself operate them, paying the fishermen a good price for their fish offal and for all the dogfish they can bring in. The minister is satisfied that the venture can be made to yield a satisfactory profit, as it already does along the American coast. He calculates that the price paid for dogfish and the desire of the fishermen themselves to get rid of the nuisance will be incentive enough to them to keep the reduction works supplied with all the material they require.

W. R. HOLLOWAY, *Consul-General.*

HALIFAX, NOVA SCOTIA, *August 9, 1904.*

COCOON CROP IN PIEDMONT, ITALY, IN 1904.

(From United States Consul Cuneo, Turin, Italy.)

Last year the cocoon crop in this district was a disastrous failure, which entailed great hardships for those engaged in the industry. In 1902 the total product of this consular district, in round numbers, was 12,000,000 pounds, and in 1903 it was only somewhat over 5,000,000 pounds. This year the crop will reach over 13,000,000 pounds.

In 1902 the price paid averaged about 35 cents a pound; in 1903 the purchasers here paid 48 cents per pound; this year the average price paid for cocoons is 27 cents a pound. In 1903 the price was good, but the production was very light. This year the crop is great, but the producers complain bitterly because the price is so low. Indeed, a prominent cocoon producer remarked to me, "I do not know what we can do. Last year the crop was a failure; this year we get nothing for it. I do not believe that those engaged in silk-worm industry got 5 cents a day for their labor."

PIETRO CUNEO, *Consul.*

TURIN, ITALY, *July 12, 1904.*

WOOL EXPORTS FROM AUSTRALASIA.

(From United States Consul-General Bray, Melbourne, Australia.)

The production of wool for export in Australia during the season ended June 30, 1904, was 995,000 bales, against 1,014,000 bales in 1902–1903, a decrease of 19,000 bales. Adding the New Zealand production, which declined from 426,000 in 1902–1903 to 372,000 bales in 1903–1904, makes the total in Australasia 1,367,000 bales, against 1,440,000 bales in 1902–1903. While the total production for export decreased 73,000 bales, the local sales dropped only 23,667 bales, viz, from 861,174 bales to 837,497 bales. The wool exports from Australasia and the local sales during the past few years compare as follows:

Exports and local sales of Australian wool, 1896–1904.

Years.	Total exports.	Local sales.
	Bales.	*Bales.*
1896–97	1,848,509	867,362
1897–98	1,718,720	882,221
1898–99	1,664,517	890,185
1899–1900	1,594,464	915,877
1900–1901	1,609,713	808,912
1901–2	1,664,885	1,035,520
1902–3	1,440,722	861,174
1903–4	1,366,942	837,497

The advantages of selling locally over selling in London appear to be steadily becoming better recognized.

The destination of the wool sold locally in Australia is of interest. The proportion taken by Great Britain during 1903–1904 has decreased, and there is a substantial increase in the shipments to Continental countries, as will be seen from the following table:

Australian exports of locally sold wool, by countries, 1902–1904.

Destination.	1902-3	1903-4
	Bales.	*Bales.*
United Kingdom	189,418	170,400
France and Belgium	234,105	277,019
Germany	156,478	159,545
Austria, Italy, and Switzerland	17,823	18,640
Russia and Sweden	4,859	1,730
United States	30,466	26,920
Canada	2,450	2,500
Japan, China, and India	5,759	12,416
Local manufacturers, scourers, etc	97,980	51,251
Total	739,338	720,421

The total value of the wool sold in the Commonwealth for the season is $44,534,800, against $44,054,200 in 1902–1903. Adding New Zealand's values makes the grand total for the season $50,233,280. The increased price obtained last season made amends for the decrease in quantity.

The Australasian sheep returns for the past four years compare thus:

Sheep census of Australasia, 1900–1903.

States.	1900	1901	1902	1903
New South Wales	40,020,506	41,857,099	26,649,424	28,663,983
Victoria	9,838,700	10,841,790	10,500,000	10,500,000
Queensland	10,339,185	10,030,971	7,213,985	8,392,044
South Australia	5,235,220	5,060,540	4,880,540	5,000,000
West Australia	2,431,861	2,542,844	2,500,000	2,554,920
Tasmania	1,683,596	1,792,481	1,679,518	1,700,000
Total Australia	62,049,068	72,125,725	53,423,467	56,810,947
New Zealand	19,355,195	20,233,099	20,342,727	18,954,500
Total Australasia	88,404,263	92,358,824	73,766,194	75,765,447

There was an increase in the flocks during 1903, and if the present favorable conditions continue these numbers should be greatly exceeded in 1904.

JOHN P. BRAY, *Consul-General.*

MELBOURNE, AUSTRALIA, *July 15, 1904.*

PETROLEUM IN GREECE.

(*From Secretary of the United States Legation Wilson, Sinaia, Roumania.*)

In 1903 the Greek minister of finance asked for bids for petroleum for the State monopoly of this article, and American, Russian, and Roumanian companies made offers, with the result that the Russian bid was accepted on account of its price—84 cents a case—while the price of the American article was $1.43 a case. In March last bids were again asked, and Russian petroleum was again chosen on account of its price; and at the third call for bids from the Greek Government no American company appeared, and 50,000 cases were bought in Russia at 85 cents a case.

However, in a report of the Roumanian consul-general at Athens, the statement is made that the Russian petroleum is very far from being so good as was at first hoped, as it produces a smoke which makes its use very disagreeable. It is not only less refined than the American petroleum, but its use is rendered difficult by the fact that the lamps in common use throughout Greece are adapted for American petroleum only. As a result the consumers have begun to make strong complaints, and the newspapers without exception have articles against this "wretched stuff." These complaints have the greater force from the fact that the petroleum is sold by the State monopoly to the consumers in Greece at $3.85 a case.

The Roumanian consul-general further states that these conditions should make a market in Greece for Roumanian petroleum, which is better refined than the Russian and cheaper than the American oil.

CHARLES S. WILSON, *Secretary of Legation.*

SINAIA, ROUMANIA, *July 25, 1904.*

FRENCH ALMOND CROP.

(*From United States Vice-Consul-General Morgan, Marseille, France.*)

Advices which have reached me indicate that this year's crop of Provence almonds will much exceed that of last year. This result is due largely to the absence of late frosts. The following table shows the estimated output of the principal regions of production compared with the product of 1903:

World's almond production in 1903 and 1904.

Country.	1903	1904
	Bales.	*Bales.*
Provence	8,000	50,000
Spain:		
Majorca	75,000	70,000
Malaga, Murcia, Carthagena, Alicante	60,000	60,000
Sicily	100,000	80,000
Bari	100,000	75,000
Morocco, Tunis, Corsica, Sardinia	50,000	60,000
Levant and other minor sources	20,000	20,000
Total	413,000	415,000

From these figures it will be gathered that in spite of a heavy crop in southern France the total quantity available is not expected to exceed materially that of last year. With 100,000 bales of the old crop still being offered, prices are expected to average $25.30 for 220 pounds, though possibly a considerably higher price may be reached. The following freight rates on almonds from Marseille to New York are quoted to me: Shelled, $7.29, and unshelled, $9.50 a ton, plus the loading charge of 19.3 cents a ton.

VICTOR H. MORGAN, *Vice-Consul-General.*

MARSEILLE, FRANCE, *August 3, 1904.*

IMPROVEMENT IN THE CANADIAN CONSULAR SERVICE.

(*From United States Commercial Agent Johnson, Stanbridge, Canada.*)

Noting the success with which the consular service of the United States has increased trade in foreign lands, the Canadian government has planned the establishment of a British-Canadian consular service, to be composed of its best trained and educated citizens, and to be appointed by Great Britain directly or by Canada by delegation of the right.

At present Canada has commercial agents abroad, but they have no status in international law and are therefore ignored by foreign states. Their number, it is claimed, is too meager, their reports are not sufficiently circulated, and in some cases their qualifications are not adequate. The Canadians assert that the consular service should precede the granting of the right of treaty making, a subject which has been discussed recently. Here is what is proposed for the extension of Canadian foreign trade:

1. That an official paper be published setting forth tariff changes, movements in foreign markets, foreign commercial legislation, port and harbor regulations, etc.
2. That an office be established in Ottawa where tariffs, circulars, items of commerce, news, etc., can be referred to by the public, who may inspect and copy.
3. That changes in foreign tariffs be made known more rapidly than heretofore and that projected changes be promptly reported.
4. That trade reports appear more frequently and regularly, and that copies of them be sent to trade journals.
5. That consular reports give the fullest details of industrial conditions.
6. That samples of goods be sent home with the reports.
7. That consuls report on what other means could be adopted to push their country's trade.
8. That consuls be allowed to pay for early statistical information.
9. That sample and specimen rooms be attached to the principal consulates abroad, where various classes of Canadian goods may be kept on view.
10. That commercial museums of foreign manufactured goods and products be established in well chosen centers in Canada, and that exhibitions of Canadian goods be opened at foreign ports or sent in vessels from port to port.
11. That consular officers abroad use their best efforts to place British subjects on a not less favorable footing than foreigners in search of concessions or other commercial enterprises, and recommend trustworthy lawyers and accountants.
12. That any such enterprise be reported at once.
13. That consuls assist in recovering debts.
14. That consuls report on the solvency of foreign business houses and how far credit may be safely given.
15. That His Majesty's consuls act as quasi public prosecutors in cases of trade infringement, etc.
16. That consuls be chosen from among men possessing commercial qualifications and technical knowledge.

17. That consuls home on leave visit centers of Canadian manufacture and acquire technical knowledge.

18. That the names and addresses of the consuls and their office hours be made public.

19. That Canadian commercial attachés be appointed to embassies and legations.

20. That the trade and commerce department be assisted by a council to be chosen from the chamber of commerce.

FELIX S. S. JOHNSON, *Commercial Agent.*

STANBRIDGE, CANADA, *August 10, 1904.*

CANADIAN TRADE IN 1903 AND 1904.

(*From United States Commercial Agent Johnson, Stanbridge, Canada.*)

The aggregate foreign trade of Canada during the fiscal year ending June 30, 1904, is estimated at $473,000,000, against $467,000,000 during the previous year, an increase of $6,000,000. There was a falling off of $15,987,235 in domestic exports during the year just closed, but an increase of $4,000,000 in the exports of foreign goods from Canada. The decrease in domestic exports is very largely accounted for by the large decrease in the export of wheat. In the fiscal year 1904 Canada exported only 16,779,028 bushels, against 32,985,745 bushels during the previous fiscal year. There was also a large falling off in the export of hay and a decrease in the export of eggs. The export of butter decreased by 10,000,000 pounds. On the other hand, the export of cheese increased by 3,000,000 pounds. Details of the trade returns, so far as compiled, follow:

Imports entered for consumption and domestic exports, fiscal years 1903 and 1904.

Description.	1903	1904
Imports for consumption:		
Dutiable goods	$136,792,874	$148,902,381
Free goods	88,017,654	94,684,043
	224,810,528	243,586,424
Coin and bullion	8,976,797	7,874,313
Total	233,787,325	251,460,737
Duty collected	37,109,717	40,952,810
Domestic exports:		
Product of the mines	31,064,861	33,626,739
Product of the fisheries	11,800,184	10,759,029
Product of the forests	36,386,015	33,091,922
Animals and produce	69,817,542	63,812,117
Agricultural products	44,624,321	37,138,875
Manufactures	20,624,321	19,864,049
Miscellaneous	83,784	121,708
Total	214,401,674	198,414,439

FELIX S. S. JOHNSON, *Commercial Agent.*

STANBRIDGE, CANADA, *August 13, 1904.*

ALCOHOL MOTORS AND PUMPS IN CUBA.

(*From United States Minister Squiers, Habana, Cuba.*)

Matanzas, a city of about 40,000 inhabitants, has water connection in 1,700 out of 4,000 houses, which use about 100,000 gallons a day. The waterworks, operated by an American company incorporated in the State of Delaware, are located a few miles distant from the city, where there are springs giving excellent water in sufficient quantity to supply a city of 100,000 people.

The alcohol motor pump, used on Sunday last for the first time, is of German manufacture, and cost, complete with installation, $6,000. This motor pump is a 45-horsepower machine and is operated at a fuel cost of about 40 cents an hour, or $4 a day of ten hours, pumping 1,000,000 gallons of water.

As alcohol here is very cheap (10 cents a gallon) the running expenses of these motors are at the minimum. The Germans are selling in Cuba many such motors for electric-lighting and water plants at very low prices. One firm has a contract to put in an alcohol motor pump at Vento, for use in connection with the Habana water supply, which is expected to develop 180 horsepower, to cost, with installation, about $25,000, and to pump 1,000,000 gallons an hour at a fuel cost of $1.60. The same firm has installed an electric-plant alcohol motor of 45 horsepower, which supplies 138 lights (Hersh lamps) at a fuel cost of 5 cents an hour.

I call the attention of those who are interested in our Cuban trade to the fact that at the breakfast which followed the installation there was not one article on the table of American origin except the flour in the bread.

H. G. Squiers, *Minister*.

Habana, Cuba, *August 20, 1904*.

BELGIAN DEMAND FOR AMERICAN SHOES AND HATS.

Messrs. Geersten & Vande Sande, 28 Van Noort street, Antwerp, Belgium, under date of August 12, 1904, write as follows to the Chief of the Bureau of Statistics:

> We beg to express our best thanks for your kindness in sending regularly the consular reports to the club Mercurius. It is needless to say of what great use they have always been to us, as after careful examination we have decided to represent American houses and to take up their goods.
>
> As you know, Belgium is an open market for American products, into which they easily find their way.
>
> It would be a great favor if you would send us, as soon as possible, the addresses of the most important shoe and hat manufacturers, or an address book of all the factories in the United States. We will gladly bear any expense incident thereto.
>
> For reference please apply to the consul-general of the United States here.

The Director of the Census has been requested to supply Messrs. Geersten & Vande Sande with such lists of shoe and hat manufacturers as he may have at his disposal.

CATTLE OF NORMANDY AND BRITTANY.

(*From United States Consul Haynes, Rouen, France.*)

I spent a few days not long since on Norman and Breton farms, and during the time learned something of the cattle.

In Normandy two distinct varieties exist, the Cotentin and the Augeronne. The former are the more highly esteemed as dairy animals. They are big framed, unprepossessing in appearance, with a long, heavy head, a large mouth, and white crumpled horns; the neck is strong, the shoulders heavy and muscular, and the chest deep. The body is long and angular, with wide, well-developed quarters, and a finely formed milk vessel, and they have every sign of being deep milkers, except that the skin looks thick and coarse. They have quiet dispositions and seem always contented; their color varies, the prevailing hues being brown, roan, red, and piebald, often with brown streaks, giving rise to the term brindle.

Cotentin cattle are to be found in all the best dairy districts, which extend from Cherbourg to Lisieux, including Valgones, Carentan, and Isigny, and are highly suitable for dairy purposes, being better adapted to the districts of which they are natives than any made breed. A cross between the Norman breed and others seems to improve them for beef making, but all crosses to improve their dairy qualities have failed. The Augeronne variety is found chiefly in the valley of the Auge, and is, as a rule, better adapted for slaughtering than for the dairy.

As to their milking qualities, the Norman will tell you that the Cotentin cow is the best milker in the world. It is incontestable that notwithstanding their plain looks they are admirable milkers, and many heifers are annually sent from Normandy to restock the cow sheds of Paris and its environs.

It would be of little practical value to give an account of the different milk records, or even an average of them, as I place but limited reliance on some of the figures, which represent, I believe, not more than a few weeks of the flush; while, on the other hand, some of the greatest yields were of inferior quality. It was, however, proved to me beyond doubt that this breed, the Cotentin, will produce 40 pounds of butter a month during the greater portion of the period of lactation without any pampering in the way of food or treatment, the amount of artificial food fed them being very small.

The Brittany race occupies almost exclusively the five departments which comprise the ancient province of Bretagne, where it is very numerous, and includes about 1,500,000 head, or one-eighth of all the cattle of France.

These animals present various characteristics, according to the fertility and cultivation of the soil where they are found. There are different opinions as to the origin of the breed, but the best authorities agree that it is Hollandaise, and that the race Bordelaise is nothing but the race Bretonne more developed by better climate and food. They are quick, active animals, of a mild, sociable disposition, and usually pieblack or black, with a black or mottled muzzle. The head is short, fine, and small, with bright eyes and small ears, while the horns are fairly fine, usually white at the base and black at the points. The color of the horns varies, however, to yellow or black throughout, the latter type being much prized if the horns are also short.

The neck is small, the shoulders clean and light, with little or no dewlap, the legs very short, the back long and straight, and the quarters wide. The mammillary veins and milk vessels are wonderfully developed. The cattle are docile and hardy, and content themselves with little, while yielding high returns. The farmers assert that their cows give a pound of rich milk for every pound of good hay eaten. One farmer showed me animals which he said gave 4, 6, and 7 pounds of butter a week.

In grazing, each cow is provided with a leather halter, to which is fastened a chain, varying in length from 20 to 30 feet, according to the quality of the land. At the end of the chain an iron stake is driven. Cattle must be of a very peaceful disposition to thrive in this way; but when there are no fences, as in many parts of Normandy and Brittany, the system seems the best that could be adopted. It gives much labor in summer, when the cows graze night and day, and when water is distant. Many farms have large troughs, which are filled with water by carts. In such cases watering, milking, and changing to fresh pasture is generally done three times a day during lactation.

Attending to the cows and milking is usually done by women, who go to the tethered cows at 5 or 6 o'clock in the morning, at noon, and at 6 or 7 o'clock in the evening. When the days are too short the animals are brought to the sheds. A pony or donkey carries the milk jugs to and from the fields in summer by means of a yoked cart or a wooden frame fastened on the back. The system of tethering originated from necessity, and has continued as a matter of economy. Owing to the small size of the holdings, which are often divided into still smaller ones on the death of the owner, each farmer needs to grow as much produce as possible for himself, his family, and his cattle. Thus the grass plat must be near the patches of wheat, mangold, beets, cabbages, etc., and to prevent these from being eaten up or spoiled by the cow she must be tethered. The Belgians, whose farms are also small, have met the difficulty by keeping their cows in sheds and carrying food and water to them.

The farmers in Normandy and Brittany claim for their system of tethering the following advantages:

Economy in feed as high as 50 per cent, the grass being eaten up clean, none left and none spoiled.

Regular feed, the cow not being pampered one day and starved the next, her appetite not being spoiled, and her digestion not being deranged.

Perfect command over the food supply by means of a long or short tether, a poor corner or a rich one.

No cost for fences.

Greater gentleness in the cow; her keeper is her good genius, on whom she is dependent for all wants, and docility necessarily follows.

More butter, as nothing is more destructive of animal fat in flesh or udder than too much exercise, and the farmer who fattens his bullocks in stalls and lets his cows run to grass stands in his own light.

It is evident, however, that unless a fairly mild climate prevails, with sufficient shade, the system would not do well. Further, it requires much labor at a season when labor is valuable, and cows thus treated must have a docile disposition.

THORNWELL HAYNES, *Consul.*

ROUEN, FRANCE, *August 1, 1904.*

NEW ZEALAND'S FINANCIAL STATEMENT, 1904

(*From United States Consul-General Dillingham, Auckland, New Zealand.*)

The financial statement of the colony for the year ending June 30, 1904, was recently issued by the colonial treasurer, Mr. Seddon, it being his ninth annual budget. The surplus was $3,750,000, which is claimed to be a record one for the colony.

REVENUE AND EXPENDITURE, 1903–1904.

Revenue.—The revenue for the year was $35,106,925, which is considerably in excess of that of any previous year, $3,173,880 more than that of the preceding year, and $2,766,925 more than the estimate.

Expenditure.—The expenditure for the year, under permanent charges and votes, reached $82,171,405, or $1,101,315 more than that of the previous year, but $783,965 less than the estimated requirements.

PUBLIC WORKS EXPENDITURE.

In the year 1892 the total expenditure was $1,958,060. Last year it was $8,101,885, the expenditure for railway construction alone, including additions to open lines, being $4,143,515, or more than double the total during the year 1892, and that on roads ($1,805,220) being greater than the total for the year 1890–91, which was $1,675,755. Mr. Seddon informed his hearers that the millennium of a colonial treasurer would arrive when members proved their patriotism and consistency by refraining from demanding a large public expenditure, allowing the completion of railways, the construction of roads, and the erection of post-offices and buildings to extend over a longer period, having the cost of public works defrayed, so far as possible, out of the surplus of the consolidated fund.

PURCHASE OF ESTATES.

Recommendations to purchase 25 estates were made by the board of land purchase commissioners, and transactions were completed affecting 10 properties containing 97,139 acres, the total cost being $2,343,075.

LOAN OF 1903.

The treasurer said that the London market was unfavorable for colonial borrowing except at a prohibitive rate, and it was useless to think of placing a loan in that market. He was therefore obliged to endeavor to raise the money required in the colony and in Australia at 4 per cent for five or twenty years, at the option of the government, and to that end he invited tenders from Australia and New Zealand for a loan of $2,500,000, and was successful in effecting it.

PUBLIC DEBT.

The gross debt of the colony on March 31, 1903, was $279,495,095 and the net debt $267,928,900. On March 31, 1904, the gross debt was $287,611,075 and the net debt $275,321,640. These figures show an increase of $8,115,980 in the gross debt and $7,392,740 in the net debt.

The treasurer admitted that the increase of the colony's debt was large, but he thought an intelligent analysis of the purposes for which these loan moneys were obtained would prevent any inclination to find fault with himself and colleagues. He also said that he did not advocate or even defend a large borrowing policy, but that he looked back with pride to the immense amount of good which had been done to New Zealand's hard-working and often struggling settlers by the colony's judicious borrowing, which had enabled large areas of land to be purchased at a fair price and to be cut up for close settlement.

The treasurer said that the unthinking might talk glibly of the burden of the public debt, but that he was of the opinion that there was no burden connected with it. He felt quite sure that there would be a great public outcry if he were to absolutely "close down borrowing." After the reproductive loans are eliminated—money borrowed for advances to settlers and for loans to local bodies, money obtained to purchase estates for close settlement, and other loans of a reproductive nature—the "normal" debt per head has decreased 11¼ per cent since 1893, namely, from $177.52 to $157.60.

OLD-AGE PENSIONS.

As a result of the introduction of the new system of investigation which has been made to apply to all pensioners already on the books, in addition to new claimants, there has been a decided drop in the number of new pensions granted, as well as a marked decrease in the total number of pensions on the rolls, and consequently in the expenditure under the act. The actual amount paid in pensions during the year was $1,015,820, or $34,880 less than last year. The treasurer thinks the present system results in greater care being exercised in granting pensions, and that it has reduced fraud to a minimum.

LAND AND INCOME TAX.

The receipts under the income tax and land tax exceeded the estimate in the budget by $175,000 and those of the preceding year by $190,000. Of this latter sum nearly $70,000 are due to the new scale of graduated tax established by the act of last session and the balance to increased valuations. The income tax has again produced a substantial sum above expectations, and the results of the year bear testimony to the steady flow of business profits to the colony generally.

GOVERNMENT ADVANCES TO SETTLERS.

I have recently made an exhaustive report on this subject and will now add that the treasurer in his budget stated that owing to the unfavorable conditions prevailing for raising money the operations of the department have been somewhat restricted during the past year. Since February last the office has not entertained applications for larger sums than $2,500. The balances at credit on March 31, 1904, in the hands of the public trustee were $792,500 for the sinking-fund account and $457,000 for the assurance-fund account.

STAMPS.

During the past year the stamp department was third on the list of revenue-producing departments. For the first time on record the stamp revenue exceeded $5,000,000. The number of imprests stamps made during the year amounted to 8,767,367, against 7,649,826 during the previous year, an increase of 1,117,541 in one year. The number of stamps issued of the denominations of one-half penny, 1d., and 2d. (1, 2, and 4 cents) in the year 1900 (that is, the year prior to the introduction of universal penny postage) was 60,257,760, while last year the total was 69,782,358, an increase of 9,524,598. These figures indicate that people write more letters and send more papers when the postage is reduced to a penny on the former and a half-penny on the latter than they did under the old rates of postage.

EDUCATION.

Much solid progress has been accomplished in the work of education during the last year. The passing of the secondary schools act and the national scholarship act and the issue of the carefully revised syllabus of instruction in public schools mark an important era in the educational history of the colony. A large majority of the secondary schools have complied with the government scheme for free secondary education.

DEPARTMENT OF LABOR.

According to the treasurer's statement, a lesser number of men applied for work in 1903 than formerly, and the difficulty of meeting the applications was less. Notwithstanding the steady and continued influx of workers from Australia, labor was sometimes scarce and expensive in the country districts, while those in the skilled trades in town received unusually high wages. Speaking of the large extension of business which has taken place and the increased values of property throughout the colony, the treasurer called attention to the fact that in Wellington City alone the capital values have risen from $29,328,890 in 1891 to $54,678,445 in 1903, and that $15,000,000 of this have been added in the last five years. The rating value of the four chief cities in New Zealand is now $139,863,735. These facts, taken together with the advance in the price of commodities, fully justify, in the treasurer's opinion, any advance in the wages of workers caused by the carefully considered awards of the arbitration court.

STATE FIRE INSURANCE.

Considerable delay has been encountered in opening this line of business. The general manager, however, anticipates being able to commence operations not later than September next. It is claimed by the government that the private insurance companies doing business throughout the colony have, since the passing of the act to establish a State fire insurance department, greatly reduced their premiums, especially on properties in country districts.

FARMING INTERESTS.

It is stated that the past year has been an unusually prosperous one for all classes of farmers and stockowners, and that general prosperity is apparent throughout the colony. The total value of the exports of the principal items of farm produce, although slightly less than the phenomenal amount for the year 1902–1903, is more than $12,500,000 in excess of the value for the year 1901–1902. The export of wool was less in quantity, but owing to the improved prices the value increased $2,991,210. The output of New Zealand hemp continues to grow, both in quantity and value.

INCREASED POPULATION.

Very few settlers of the agricultural class find their way from Great Britain to this colony. The treasurer said that low rates of fare and free grants of land cause the stream of immigration to flow to the United States and Canada, but he had now effected an arrangement with the Shaw-Saville, the New Zealand Shipping, and the Federal companies to bring out passengers direct to New Zealand at considerably reduced rates, which he hoped would have a good effect, but added that each intended settler will have to be approved of by the agent-general at London and must possess at least $125 on landing in the colony.

OFFICE OF HIGH COMMISSIONER.

Referring to the proposal to appoint a high commissioner for the colony to act as its representative in London, at a salary of $12,500 a year, the treasurer said that he regretted that so much comment, favorable and unfavorable, had been indulged in. He felt sorry that a construction had been placed upon the action of the government which was entirely unwarranted by circumstances. If New Zealand is to maintain its prestige and give its representative a fair and fitting opportunity, the name agent-general should be changed to high commissioner. Adverse and undeserved comment had been made regarding himself, the colonial treasurer (Mr. Seddon is also the prime minister of the colony), because it had been thought that he was creating the position with an ulterior object. It was, therefore, with some diffidence that he expressed the opinion that, health permitting, he could do greater good for the colony by remaining in New Zealand. He, however, was strongly of the opinion that whoever was appointed should be a New Zealander who was well acquainted with the political, agricultural, and commercial affairs of the colony. In his opinion the appointment should be for not more than five years, discretionary power being given to the governor to make the term less, thus keeping the person appointed in closer touch with the colony.

FRANK DILLINGHAM, *Consul-General.*

AUCKLAND, NEW ZEALAND, *July 19, 1904.*

FOREIGN TRADE NOTES.

(From United States Consul Haynes, Rouen, France.)

Rice-hulling machines for Porto Rico.—On account of the great efforts to encourage rice culture in Porto Rico many rice-hulling machines will soon be demanded. The Revue du Commerce Extérieur, Paris, says the island will probably suffer for the want of them, as the annual consumption, 35,000 tons, of which 20,000 tons have heretofore been imported, will, on account of increased culture, be augmented one-third. "French makers should note," adds the Revue, "that they must compete with United States makers, who enter their articles free, while such machines from France must pay 45 per cent ad valorem."

Cement in Siam and Canada.—Siam imports much cement, but as competition is great the profits are small. The best sellers are the cheaper grades, among which is Italian cement. The Austrian article is better, but costs more, and consequently only with difficulty stands the competition. Much Danish cement enters direct from Copenhagen. In 1901 the whole amount of cement entering Siam was 25,972 tons, which was increased to 36,718 tons in 1902. Of this amount Denmark sent 16,000 tons; England, 9,167; Germany, 6,761; Italy, 2,802; Singapore, 1,915; and other places, 76 tons.

The French consul at Vancouver in his latest report says: "Canada imports 220,540 tons of cement, of which about one-third goes to British Columbia. Half of this comes from the United States, while England, Belgium, Germany, and France supply the other half. Imports in 1903 were increased on account of the construction of the bridge at New Westminster, in which has been employed much Hamburg cement."

Automobiles in Ceylon.—According to Indian Engineering, the Ceylon government is seriously considering the proposition of substituting on all fit roads light automobiles for the old stagecoaches which still exist on important routes for mail and passenger traffic. The required speed is 30 miles an hour, and each vehicle must carry 6 passengers, 300 pounds of letters, and 26 pounds of baggage.

Road locomotives in South Africa.—Road locomotives have been and are still wanted in South Africa because of increasing mining industries. It is found that much of the water utilizable produces damage by incrustation, hence motors using other than steam power are gaining preference. It is asserted that there is a future in South Africa for oil and gasoline engines in which beauty is sacrificed for solidity.

THORNWELL HAYNES, *Consul.*

ROUEN, FRANCE, *August 3, 1904.*

BRITISH TARIFF COMMISSION REPORT.

(*From United States Consul-General Guenther, Frankfort, Germany.*)

The British tariff commission has just published the first volume of its report on its investigation.

All the members of the commission admit that Great Britain's iron and steel manufacture—compared with that of other countries—has retrograded. The cause for this, the commission declares, is not a lack of British energy or of able labor, but the lower prices at which German and American manufacturers sell their products in foreign markets, they obtaining high prices in their home markets, which are closed against outside competition by high tariff duties. Thus they can dump their surplus iron and steel products on British markets, which would not be possible if Great Britain were to discard its free-trade policy.

The commission deems it necessary that a protective tariff system be inaugurated containing maximum and minimum rates, the latter to be given to the products of those countries which levy low customs duties on British goods, and that, besides this, preferential rates be given to any British colony which discriminates in favor of manufactures of the United Kingdom. The commission proposes the following schedule as minimum rates on imported iron and steel manufactures: iron ore, free; pig iron, 5 per cent of the value; partly manufactured products of iron, rails, girders, foundry iron, etc., 6¼ per cent of their value; fine plate, nails, screws, bolts, wheel tires, car wheels and axles, crucible cast steel, and other steel manufactures not named, 10 per cent of their value.

The report of the commission cites as a case in point the wire-tack industry, which has been destroyed in England by the free entry of the German and American products at extremely low prices. Later on, when the British wire-tack manufacturers had been forced to quit, the prices of the foreign-made tacks were raised 15 per cent to the British purchaser.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *July 27, 1904.*

TRADE NOTES FROM CANADA.

(*From United States Consul-General Holloway, Halifax, Nova Scotia.*)

Coal mining.—The Sydney mines, Gowrie and Blockhouse collieries, at Cape Breton, Nova Scotia, are now operated a mile under the sea, and it is believed there are possibilities in submarine mining in that locality which were hitherto undreamed of by the most enthusiastic operator.

Tenders for water pipe.—The town of New Glasgow, Nova Scotia, is calling for tenders for laying 20,000 linear feet of water pipe. Good progress is being made in the construction of the Springhill water service, and the contractors expect to have the system completed by autumn.

Halifax water system.—The Halifax city council has decided to engage an expert waterworks engineer to go over its system and report on the most feasible way to increase the water supply. It is believed that a system of pumping from one of the lower lakes on the St. Margarets Bay road will have to be established, as the capacity of the present source of supply can not be increased by dam building, save at an enormous expense.

Municipal telephone system.—The Chicago Telephone Supply Company has made an offer to install a municipal telephone system at Brantford, Ontario, for $37,500. It is proposed to supply the present customers of the Bell Company with phones free of charge until their existing contracts expire.

Electric railway power through tunnel.—The Grand Trunk Railway will substitute electricity for steam in the Sarnia tunnel, and will install a plant for that purpose to cost $500,000. The third-rail system will be used.

Fisheries.—The Canadian authorities are delighted over the success of their experiment in instructing their fishermen in the Scotch methods of catching and packing herring. A shipment to New York of Canadian herring put up by Professor Cowie and his Scotch fishermen at Canso brought from $12 to $15 a barrel, which is equal to the highest price obtained for Scotch or Norwegian herring. The ruling price heretofore received for the Canadian catch has been from $5 to $6.

Tariff "dumping clause."—The Halifax Maritime Merchant, speaking of the "dumping clause" of the new Canadian tariff regulation, says:

> Last week the customs officials at St. John applied it to an importation of axes which had been ordered since the 8th of June. A consignment of scythes was also subjected to the added duty. As an illustration of how the clause worked in the case of the axes, let it be supposed the consignment consisted of 6 dozen axes, costing $4.50 a dozen, or $27 for the lot. The regular price was $33, the duty on that being $8.25. The difference between the two prices was $6, which is more than 15 per cent; therefore $4.13, half of the regular duty, was added to the $8.25, making the total duty as actually assessed $12.38. The axes therefore cost $39.38, which was prohibitive. It is understood that the clause will also be applied to wire nails, which are being cut 20 cents a keg in the United States for export trade.

W. R. HOLLOWAY, *Consul-General.*

HALIFAX, NOVA SCOTIA, *August 9, 1904.*

NATURAL SCIENCE MUSEUM IN PERU.

(*From United States Consul Gottschalk, Callao, Peru.*)

The Peruvian Government is about to found a national museum of natural science, which will have its home in Lima, and in which there will be three departments, one devoted to animal life, another to plant life, and a third to minerals. The founding of this institution was made the subject of a decree promulgated on the 15th of the present month, and will probably mark an epoch in the scientific development and culture of Peru.

The country has long been practically without any serious institution of the kind, although some years ago a laudable effort was made to gather into the Exposition Park at Lima a collection of paintings, Peruvian antiquities, and botanical as well as zoological specimens. The Exposition de Lima suffered much in the Chilean invasion in 1879 and has never since had adequate restoration or financial support.

The Cuerpo de Ingenieros de Minas, a body of Government engineers, has done valuable work in the study of the country's mineral resources, and publishes an interesting periodical devoted to this and kindred subjects. The Sociedad Geográfica de Lima, which counts among its members almost all the prominent devotees of science in Peru, has also done much in this line as well as in matters of geography, history, and archeology; so, too, the Sociedad Nacional de Minería and the Sociedad de Agricultura, both bodies composed of cultured men, have done much to further investigation and bring matters of scientific interest to the public view. But there has been a want of unity in the efforts of these bodies, and a decided need for some institution which might centralize all scientific effort and provide the proper curatorship for collections, etc. That want the Museum of Natural Sciences is intended to fill.

There is also a decided feeling in Peru that during the past too little attention has been paid to the very important archeological treasures of the country, foreign scientists having often been generously assisted in conducting researches which almost invariably resulted in the exportation of valuable relics for the enrichment of some great museum abroad; a special feature of the new Museum of Natural Sciences, therefore, will be the section devoted to Peruvian archeology.

It is enjoined upon the ministry of fomento (interior) to seek out, either in Europe or in the United States, three specialists in the sciences of zoology, botany, and archeology, whose duty it shall be to establish the new museum. Persons who have already made studies in South America will be preferred, although this requirement is not, I understand, absolutely to be insisted on. Of these three scientists one will be appointed director of the museum, and he shall, within as short a time as possible after his appointment, draw up and present to the Government a plan for the conduct of the new institution, a budget of its running expenses, and a roll of the corps needed.

A. L. M. GOTTSCHALK, *Consul.*

CALLAO, PERU, *July 19, 1904.*

ALMERIA GRAPES OF SPAIN.

(*From United States Consular Agent Carleton, Almeria, Spain.*)

The exportation of the white grape of Almeria commences the last of August, although shipments do not become of any importance until the middle of September.

The weather conditions have been favorable this year and a big crop is anticipated. The grapes are at present in excellent condition and bid fair to exceed those of last year in size and quality. The total crop is estimated at 2,000,000 barrels.

The leading grape exporters of this city and the province have just effected the organization of a society, the object of which is to control and regulate, so far as possible, the shipment of the white grape. The disastrous experience of last year and the causes thereof were so obvious that a strenuous effort will be made this season to remedy the more serious evils, and the results are being watched with considerable interest.

The chief points in the by-laws of the association may be summarized as follows:

(1) All ships must sail direct to their respective destinations.

(2) The maximum number of barrels that any one boat can load are: for Bristol, Newcastle, Cardiff, and Manchester, 3,000; for Hull, 5,000; for London and Glasgow, 8,000; for Liverpool, 10,000; for Hamburg, 8,000, and for New York, 15,000.

(3) No two boats for the same destination will be permitted to load at the same time.

(4) No boat will be permitted to load for New York before September 15.

A. E. CARLETON, *Consular Agent.*

ALMERIA, SPAIN, *July 27, 1904.*

DEVICE FOR LAYING DUST.

(*From United States Consul Halstead, Birmingham, England.*)

A writer in a motor-car paper suggests an application of chemical salts to roads as a means of laying the dust. "Calcium chloride is practically," the writer says, "a waste by-product of several manufacturing processes—for example, the extraction of copper from burnt pyrites, Weldon's chlorine process, the ammonia soda process, and the manufacture of chlorate of potash. It is highly deliquescent and soluble in water. Strong solutions of this applied to the roads would keep them almost permanently damp." The writer claims that "it would be cheaper than oils and would be without their objectionable odor, and, being a neutral salt, would be harmless to motor-car tires, etc." "If this be true," the editor of the motor journal says, "magnesium chloride, slightly more expensive, but still a cheap salt, ought to be quite as effective. It occurs in large quantities in combination with chloride of potash in the Stassfurt mines in Germany, and is also a by-product of manufacturing processes."

MARSHAL HALSTEAD, *Consul.*

BIRMINGHAM, ENGLAND, *August 4, 1904.*

JAPANESE MERCHANT MARINE.

Export, organ of the central union for the study of commercial geography, published in Berlin, Germany, has the following in its issue of July 21, 1904:

"The war now being waged in the East is bound to have a far-reaching influence on Germany, as its course and result will materially affect commercial and political conditions in the East. Since the war with China, Japan has appeared in Eastern waters and markets as Germany's dangerous rival. Germany had 6 per cent of the total trade of the Chinese treaty ports in 1896 and 16 per cent in 1901; Japan had 2 per cent in 1896 and 11 per cent in 1901. In 1876 Japan's trade with China amounted to 4,853,831 tons; in 1901 it amounted to 49,343,381 tons. The commercial navy which has been built by the Japanese since the opening up of the Empire by the Americans, has been a very important factor in the development of Japan's marine commerce. It is all the more remarkable in that it was created out of nothing. It was carefully assisted until to-day it occupies tenth place among the great commercial navies of the world.

"The Japanese are naturally a seafaring folk. The form of their country and its situation favor this. In the thirteenth century they traversed the Eastern seas in large ships, going to China, Anam, Siam, and the Philippine Islands. They even had connections with European countries at that time. The cutting off of their country in the sixteenth century, by law, had a disastrous effect upon their commercial navy; in fact, it wiped it practically out of existence. The Government suppressed all kinds of seafaring by strong edicts which forbade the building of large seagoing ships, and even went so far as to order the destruction of those already in existence. Thus, in a short time, every effort of the Japanese to win their way on the ocean was suppressed, and only in the rarest cases did the keel of a Japanese ship or an imperial junk, bearing on board a mandarin, plow the waters of China or Korea.

"A total rooting out of the naval spirit of this island people was rendered less possible, however, by the difficulties which met all efforts to carry on traffic in the interior of the country. The result was a very active coast traffic. The profits of this traffic resulted in the repeal of the law forbidding the Japanese to carry on foreign trade, and it still further resulted in the development of the modern commercial navy of Japan. Some of the influential and most important citizens of Japan had long looked upon it as essential to their own success and importance and also profitable to their financial undertakings to maintain a smaller or larger number of steamers; but inasmuch as the men fitted for the work of running and directing vessels of this kind were few and far between the ships remained most of the time in the harbors of Japan, seldom voyaging beyond the dangerous waters of the Japanese Sea.

"After the passage of the law opening the imperial waters to the world, the Japanese fleet developed rapidly. Numberless sailing vessels were built in Japanese shipyards, and modern steamers were bought in foreign countries. As early as 1879 Japan had 166 steamers aggregating 42,760 tons, and 714 sailing vessels aggregating 27,550 tons. As appears from the number of ships and the tonnage indicated, the vessels were as a rule small.

"As the desire for expansion and the power to expand increased the tonnage also increased. Most of the ships were built in England. After Japan's victory over China, Japanese shipping received a new impulse. In 1894 the Empire's commercial navy included 745 steamers aggregating 169,414 tons and 722 sailing vessels aggregating 43,511 tons, while in 1899 the number of steamships was 1,130, with 477,430 tons, and the number of sailing vessels 1,910, with 170,894 tons. These figures indicate a movement upward, due largely to the support accorded to the shipping interests by the Imperial Government.

"On March 23, 1896, two very important laws were passed, affecting vitally the development and interests of the commercial navy. One was for the encouragement of shipping itself and the second for the encouragement of shipbuilding. According to the first law each steel or iron ship of 1,000 registered tons or more, owned exclusively by Japanese, carrying a Japanese flag, and sailing between Japan and a foreign country, or between the ports of foreign countries, is entitled to a supporting subsidy. The second law provides that steel and iron ships of not less than 700 and not more than 1,000 registered tons, built according to the rules and under the supervision of the minister of public ways, by Japanese, or by a company formed exclusively of Japanese, shall be paid 12 yen [$6] for each ton; and that every ship of this kind not over 1,000 registered tons shall draw from the Imperial treasury 20 yen [$10] for each ton and 5 yen [$2.50] additional for each horsepower. In the building of these ships only such foreign material may be used as is permitted by the regulations of the ministry of public ways. In the year 1902 the following subventions or subsidies were paid under the direction of the ministry of marine: A post subsidy or subvention of 12,991,517 marks [$3,091,981], or considerably more than the post subsidy of the German Empire, which was only 8,955,400 marks [$2,131,385]; a premium to encourage shipping of 1,476,728 marks [$351,461], and a shipbuilding premium of 582,225 marks [$138,570]. In Germany not a dollar was paid to encourage shipping or shipbuilding.

This governmental support was successful. According to the Bureau Veritas, of Antwerp, the Japanese marine fleet, including steamers of 100 tons and over and sailing vessels of not less than 50 tons, was as follows in the years named:

Japanese marine fleet, 1891–1892 and 1900–1903.

Year.	Steamer tonnage.	Sailing tonnage.	Total tonnage.	Percentage of world's merchant marine.
1891-1892	75,500	25,600	101,100	0.5
1900-1901	296,600	117,900	414,500	2
1901-1902	326,200	170,400	496,600	2.2
1902-1903	333,400	172,500	505,900	2.1

"This table shows a very considerable growth of the total tonnage in the years 1900–1901 and 1901–1902, or directly after the end of the war with China. The same period shows also a very considerable activity in the shipbuilding industry. In 1900, 14 steamers, aggregating 13,335 tons, were built; in 1901 there were built 28 steamers, of 29,933 tons, and 53 sailing vessels, of 7,180 tons.

"The first regular communication between Japan and the open ports of China and Korea was established in the years 1884 and 1885. To-day there are 13 regular lines to China and 2 to Korea. Even with the war raging these lines are sending ships on regular trips. Up to the beginning of the war 2 regular lines of steamers had been established, making trips one every fourteen days and the other every three weeks between Tsingtau and Kobe, and since 1902 an imperial subsidized Japanese line is running between Tsuraga, on the northwest coast of Japan, and Vladivostok.

"The result of Japan's efforts to increase her traffic and her merchant marine was to establish, by the beginning of the war with Russia, the entire Japanese coast traffic under the Japanese flag. In the year 1897–1898 there were made in Japanese waters, under the German flag, only 134 trips, by ships aggregating 239,271 tons. Since that time the German traffic along the coast has become still less. The war brought on a change, cutting down the number of vessels bearing the Japanese flag engaged in trade along the coast and with China. The Japanese shippers, however, chartered European vessels for this trade. In this way foreign flags have maintained a better standing in the coast trade between Japanese harbors and in the trade with China.

"In the coast trade of Korea in the year 1902, 900,038 tons, out of a total of 12,410,000, sailed under the Japanese flag. In the traffic with the harbors of northern China the Japanese flag had almost exclusive control. In 1903 there went from Kobe, the most important export harbor, to the north China ports 7 foreign steamers, aggregating 12,167 tons, and 137 Japanese steamers, aggregating 152,927 tons. The same relations exist in the traffic with Korea. In 1903 no foreign ships were engaged in this traffic, while 103 Japanese steamers, of 58,753 tons, plied between the ports of the two countries. Between Japan and Vladivostok, a very important harbor of Russia in the East, only 7 Japanese ships, aggregating 8,420 tons, sailed in the year 1895, while 63 Japanese ships, aggregating 67,273 tons, sailed between the same points in 1900. The total shipping advanced in the time indicated from 171 ships, aggregating 194,078 tons, to 376 ships, of 619,133 tons. The increase of traffic under the Japanese flag between Kobe and Tsingtau was also very considerable. The number of steamships plying in 1902 between these two harbors was only 12, aggregating 15,502 tons, and 9 of these were Japanese, with 7,532 tons. In 1903 there were 42 steamers, aggregating 52,027 tons, of which 32, aggregating 28,145 tons, were Japanese, and only 6, aggregating 20,696 tons, were German.

"From the foregoing figures it is easy to see how very important a factor the development of the Japanese merchant fleet is in the problems of the Far East. What the results of the war will be it is hard to say. At all events, the Japanese commercial marine will have to be reckoned with as a weighty factor in Eastern waters."

ECONOMIC DEPRESSION IN ENGLAND.

(*From United States Consul Stephens, Plymouth, England.*)

The London Daily Mail has recently been publishing an interesting series of articles on the general want of money in the country. Throughout the whole of the present year banking companies, railway companies, and industrial concerns generally have been complaining of the depressed condition of trade, of the diminished spending power of the community, and of the economical spirit abroad which has adversely affected nearly every industry in the land. In the southwest of England the stagnancy of industry and the steady shrinkage of business is seen on every side. The complaints from one and all are melancholy. Business is bad, desperately bad, and in describing the prevailing conditions I use almost verbatim the language of the writer in the great London daily.

"This prevalent epidemic of poverty," continues the Mail, "is ascribed to various causes by various authorities, but no one denies that it exists. The chairman of the Financial Times indeed asserts that the past two years have been 'worse than those which followed the Baring crisis,' while Sir William Ingram tells us that he 'can scarcely remember any one year to be compared with last year.' Yet there is no real ground for surprise at what is happening. In the first place, foreign competition has increased and is increasing to a degree which menaces the stability of British industry. Strongly intrenched behind his own tariff wall, the foreign manufacturer and producer is destroying British trade. What we used to make at home we now buy abroad; the money which used to be invested at home in British industry is now invested in other lands, where a tariff gives security; the money that used to circulate from hand to hand in this country leaves it for Germany or the United States."

"Concurrently with this great development of foreign competition we have had heavy borrowing to pay for the war and, over and above that, heavy borrowing for various municipal enterprises."

These vast expenditures by English municipalities have not been so successful as was reasonably expected. In many instances the National Government has had to step in and arbitrarily take over the management of affairs. This has just happened at Plymouth. Further drafts are constantly being made upon the already overburdened taxpayers. Expenditures must continue, and only legislation of the most sweeping character can bring better conditions.

JOS. G. STEPHENS, *Consul.*

PLYMOUTH, ENGLAND, *August 4, 1904.*

TOMATOES IN ENGLAND.

(*From United States Consul Stephens, Plymouth, England.*)

Over 100,000 packages of tomatoes are entering British ports weekly, and in addition the home crop is the heaviest known. Valencias have been selling at 2 shillings (48 cents) a case, and French tomatoes have been sold as low as 1 shilling 6 pence (36 cents) a crate. These prices, it is claimed, are altogether unprecedented in July. Tremendous quantities are expected to be on sale in September.

Unfortunately, American tomatoes are not holding their own in this market. It is now almost impossible to go into a local store and purchase the American product. No complaint is made against the American tomato. It is readily admitted to be the equal if not the superior of any other, yet it is not on sale. Yesterday I called on several of the merchants and asked them the reason why the continental tomato was crowding out that from the United States. In nearly every instance the reply was the same: "The London houses do not offer us the American product, and we sell mostly Italian and French products."

I would suggest to our American canning companies that this is a matter deserving attention and investigation.

JOS. G. STEPHENS, *Consul.*

PLYMOUTH, ENGLAND, *August 4, 1904.*

FOREIGN TRADE OF TURKEY.

(*From Nachrichten für Handel und Industrie of March 9, 1904.*)

According to the lately published official statistics of Turkey, the imports and exports into and from that country during the Mohammedan years 1314 and 1315—that is, the years ended February 28, 1899 and 1900—were as follows:

Imports and exports of Turkey in 1899 and 1900.

Country.	Imports.		Exports.	
	1899	1900	1899	1900
Germany	$1,920,468	$2,142,536	$1,210,352	$1,987,744
Great Britain	45,253,868	36,564,000	20,370,196	24,264,592
Austria-Hungary	23,017,764	21,128,712	5,290,340	6,519,788
Belgium	3,249,840	2,905,584	247,720	405,460
United States	192,896	136,488	2,222,176	2,517,416
France	10,885,732	18,065,888	18,915,468	20,954,252
Greece	1,937,100	1,507,528	2,059,508	1,784,464
Netherlands	1,406,196	1,291,444	1,244,056	2,022,372
Italy	6,102,580	5,843,728	2,379,256	3,120,304
Persia	2,778,292	2,752,420	86,416	80,212
Roumania	4,236,760	3,349,808	1,280,972	1,127,412
Russia	7,707,128	8,675,832	2,060,520	2,399,848
Egypt	3,301,100	2,730,772		
Bulgaria	4,008,268	4,903,404	1,377,200	1,139,116
All other countries	1,135,079	786,622	327,754	279,207
Total	117,133,071	107,784,766	59,071,934	68,602,187

It should be borne in mind that imports are not designated by countries of origin but by place of shipment.

The exports and imports of tobacco are not included in these figures. The imports were valued at $160,526 in 1900 and the exports amounted to 42,847,013 pounds, against 37,177,613 pounds in 1899.

AMERICAN METHODS ON ENGLISH RAILWAYS.

(*From United States Consul Halstead, Birmingham, England.*)

In an editorial on the half year's working of those English railways which have already announced their dividends, the Birmingham Post says that—"After vigorously protesting against the introduction of American methods as being unsuitable, if not impracticable, on English railways," British "railway managers are evidently profiting by American experience to the extent, at all events, of cheapening the transport of merchandise and minerals by means of more careful loading, the employment of trucks of larger carrying capacity and engines of greater hauling power, and the discontinuance of superfluous trains, more particularly on branch lines. In many cases, also, they are increasing the carrying capacity of their passenger coaches without adding materially to the cost and weight of the trains, and utilizing motor cars in country districts as feeders for their railways. A good deal still remains to be done in the way of staff reorganization and the compilation of really instructive statistics for the guidance of managers and directors, and but little improvement is apparent yet in the handling of passenger traffic, so far as regards the working expenses. But the work of reform has evidently begun, and the period of depression through which we are passing will not have been without its compensations if it serves, as we hope it will, to stimulate and strengthen the reform movement."

Owing to the many evidences of trade depression and the downward tendency in weekly railway tariff returns, public expectations, the Post says, were not pitched very high, and it is an agreeable surprise to find that out of 20 railway companies whose statements have been printed, 7 have increased their dividends, 8 pay the same dividends, and only 5 have reduced them, and that though only 7 have raised their dividends, 10 companies carried forward a bigger balance than last year. The results testify "to the economical effect of the greater care, skill, and science which have been brought to bear on railway workings in this country." The Post holds that the results should go far to reassure investors, for if the companies are able to do so well in times of depression, what may not be expected in normal trade conditions, more particularly when the reforms now in progress are carried out? It estimates that one-fifteenth of the total wealth of the nation is invested in British railways.

MARSHAL HALSTEAD, *Consul.*

BIRMINGHAM, ENGLAND, *August 6, 1904.*

REPUBLIC OF PANAMA.

(From United States Consul-General Gudger, Panama, Panama.)

ESTABLISHMENT OF THE REPUBLIC.

The Republic of Panama, the youngest member in the galaxy of nations, commenced its national life November 3, 1903, with practically the unanimous support of all the people of the Isthmus.

Such were the conditions that not a drop of blood was shed or a gun fired in its defense. Almost as one man the population arose and declared for an independent and free government. Men of all classes and callings joined in the movement and enlisted under its banner. The soldiers of the mother country, Colombia, stationed here, without a dissent declared their allegiance to the new Republic.

At a mass meeting a declaration of independence was enthusiastically adopted, and a junta of three men was named to conduct the provisional government. The news spread through the interior, and all towns and provinces, without exception, joined the movement.

Later, general elections were ordered and a constitutional convention was assembled in the city of Panama, which adopted a constitution, republican in form, which resembles in almost every respect the Constitution of the United States. By this constitution a president, three vice-presidents, a judiciary, and other necessary adjuncts to complete a permanent organization of the Government were provided for.

POLITICAL DIVISIONS.

The Republic is divided into seven provinces, as follows:

Political divisions of the Republic of Panama.

Provinces.	Capitals.
Panama	Panama.
Colon	Colon.
Bocas del Toro	Bocas del Toro.
Chiriqui	David.
Los Santos	Los Santos.
Veragua	Santiago.
Cocle	Penonome.

In each of the provinces there is a governor—alcalde—together with other necessary officials.

PORTS OF THE REPUBLIC.

The ports of the Republic on the Pacific are Panama, Agua Dulce, Pedregal, Montijo, and Puerto Mudis; and on the Atlantic, Colon, Bocas del Toro, and Puerto Bello.

RAILROADS AND POST-ROADS.

There is but one railroad in the Republic, and this extends from the Pacific at Panama to the Atlantic at Colon, and is operated by the

Panama Railroad Company. It is 47 miles long and was completed in 1855, the first train passing over the Isthmus January 28 of that year. The cost of this road was $7,500,000, and the gross earnings for the year ending December 31, 1903, were $1,267,570.91. The majority of the stock (thirty-four thirty-fifths), formerly owned by the French Canal Company, has passed to the United States Government. The roadbed is in good condition and the rolling stock answers the purposes for the present. The principal offices of the company are located in the city of New York.

There are no dirt roads leading into the interior. It is doubtful if there exist in the entire Republic 25 miles of road over which a carriage could pass with ease.

DUTIES.

The duty on goods was given in a report made under date of July 18, 1904.[a] It may be here stated that a tax of about 15 per cent is chargeable on the invoice price of articles usually kept and sold in dry goods and grocery stores, while on liquors, business establishments, etc., the tax is special and much higher.

AREA, POPULATION, AND RESOURCES.

Few countries of the size of Panama have such a large coast line. From the Costa Rican boundary on the Pacific and Atlantic it stretches to the mouth of the Atrato River on the Atlantic and to Puerto Cocolito on the Pacific, the dividing line between Panama and Colombia—a distance, including both sides, of not less than 1,000 miles.

The territory lies between 7° 15′ and 9° north latitude, and 77° and 82° west longitude from Greenwich.

The area of the Republic is 31,500 square miles. In the widest place the Isthmus, which constitutes the Republic, is about 160 miles, and at the narrowest between 35 and 40 miles, the extreme length being nearly 400 miles.

The Republic has a population of 300,000, composed of various nationalities. There are pure and even wild Indians, Spaniards, Colombians, Panamans, Englishmen, Germans, Frenchmen, Chinese, Italians, and Americans. It is estimated that there are some 40,000 Jamaicans (who are English), and about 2,000 Chinese, most of whom were attracted to the Isthmus during French canal days.

It is difficult to get data concerning the country's resources, but it is generally believed that the forests throughout the interior abound in hard woods and that the hills contain minerals of great value. The hills, mountains, and valleys are practically in the same state in which they were when Columbus discovered the New World.

CLIMATE AND HEALTH CONDITIONS.

So much has been said and written on the subject of health conditions on the Isthmus that little remains that will be of interest, unless it be the correction of some erroneous impressions.

The most ardent friend of Panama does not regard it as a paradise or even as a health resort. That it is not such a death pool as most people at a distance think is equally certain. For hundreds of years no regard has been paid to sanitation. That under such circumstances there should be a large death rate is not more than should be expected. Sometimes one is inclined to wonder how it is that anyone can live, considering the surroundings.

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[a] Published in Daily Consular Reports, No. 2039, August 25, 1904.

The death rate in Panama during the six months ending July 1, 1904, was 54 in 1,000, calculating the population of the city at 20,000 people. The natives claim that there are here at least 25,000 inhabitants, while the census which is now being taken would seem to indicate that it is even less than 20,000.

During the construction of the Panama Railroad and when work was being pushed by the French Canal Company the laborers were badly housed, poorly fed, and exposed to all kinds of inclement weather. No wonder the record was made that for each cross-tie in the Panama Railroad the life of one of those who aided in its construction was lost.

With good, comfortable quarters, pure water, constant warfare on the mosquitoes, abundance of healthy food, and enforcement of strict sanitary measures, the death rate will undoubtedly be greatly reduced. All these things will be provided for by the Canal Commission, which seems to have begun work in earnest, and those who have watched the progress so far have little doubt that within the shortest period possible all that can be done on the canal will be accomplished.

The climate differs in various parts of the Republic. In Panama and Colon the temperature is approximately the same, and ranges from about 65° to 98° F.; the average is perhaps 80°. The nights are, as a rule, cool and pleasant. The rainfall in Colon is from 82 to 155 inches, the average being about 125 inches. In Panama the rainfall is from 47 to 90 inches, the average being 70 inches. The hilly section is cooler and has less rainfall. The seasons are divided into the wet and the dry. The dry season, which is called the summer, begins in December and lasts through April, the remainder of the year being the rainy season, or winter.

The Commission is not only doing a great deal in the way of sanitation, but is likewise preparing for sickness. Two large hospitals will be conducted—one in Panama and the other in Colon—and stretching across the zone will be some 18 others, which will be feeders to the principal ones. Panama, Colon, and the entire zone will have fresh, pure water, the supply of which will come from streams in the adjacent hills.

CONDITIONS INJURIOUS TO PROGRESS.

The constant revolutions which have occurred in this country have done more, perhaps, than all else to hinder the progress of commerce. From the time when the famous buccaneer, Morgan, looted and destroyed the old city of Panama to the present, these have been periodical. Many of them have been bloody, and all of them have been bitter.

The revolution which ended a year and a half ago extended over a period of more than three years. The forces alternately had possession of every part of the Republic except the city of Panama, and the consequence was that at the end of the struggle the country was in a complete state of bankruptcy.

During the past, duties have been placed alike on the necessaries of life and the luxuries. The poor man in his humble hut has been compelled to pay the same duty on the oil that lights his home that the rich pay on the diamonds that adorn their persons.

It is unfortunate that those things most used, and even many not produced here, have been monopolized. Such necessaries as salt, matches, and tobacco come very high to the people.

THE OUTLOOK.

Notwithstanding the unfavorable conditions, the outlook is beginning to brighten. The Panamans are beginning to see the need of introducing machinery and appliances which will reduce the cost of production. The monopolies mentioned in the last section are now absolutely forbidden, and gambling has been put under the ban of the law. Many articles have been placed on the free list, such as cattle for breeding purposes, ice, guano, plants, seeds, and machinery and materials for printing books, lithographing, and engraving.

IMPORTS AND EXPORTS.

The records are so meager that it is impossible to give a definite idea of the imports and exports each year. Among the articles exported are hard woods, rubber, hides, ivory, balsam, coffee, nuts, mother-of-pearl shells, pearls, gold dust, cocoa, and sarsaparilla.

Among the articles imported are almost all things used that are manufactured or put up by machinery. This embraces all canned goods, clothing, hats, shoes, and articles used on the person and in the homes of the people, including all kinds of furniture.

THE CANAL.

It was the dream of De Lesseps to join the two greatest bodies of water on the earth. To do this he conceived the idea of building a canal from the Atlantic to the Pacific on the Isthmus of Panama. Much of this work has been accomplished, and the United States has now undertaken to complete it. This will do much to push forward the wheels of progress in the new Republic. It has already had its influence in many ways. Rents of all kinds have gone up, and those who hold a little land want a fortune for it. However, buildings for the officials and help will be constructed in the Canal Zone, which will relieve the congestion somewhat.

As is well known, the canal will be constructed through what is known as the Canal Zone. This consists of all the territory for 5 miles on each side of the canal, excepting the cities of Panama and Colon at the ends.

The length of the canal will be 47 miles, and it is expected to cost not less, in round numbers, than $200,000,000. Should it be a sea-level canal, the cost will perhaps be a fourth more. The construction of this great waterway will almost revolutionize the commercial world. It will be especially beneficial to the United States, as it will place the eastern and western coasts in closer touch.

A large part of the work will be done by improved machinery, the latest patterns being used. It is probable that not more than 12,000 workmen will be actually engaged in work at any one time.

From Colon to Panama, and in these two cities, the strictest sanitary measures will be enforced, and it is expected that by reason of this the health of those engaged on the canal, as well as those passing across the Isthmus, will be good.

MEANS OF COMMUNICATION.

From Panama and Colon there are various steamship lines running to the different ports of the world. The service of both ports is either weekly or trimonthly, and the lines are operated by companies that are able to furnish the very best of accommodations to their passengers. It is confidently expected that a fast line of steamers will be operated between New York and Colon, and it is more than probable that another will be established between Mobile, New Orleans, and Colon.

On the Pacific side the means of transportation to San Francisco and other American ports will be improved, and the steamers from the south will be more frequent.

CONTEMPLATED IMPROVEMENTS.

Enthusiasm incident to the ratification of the canal treaty was very great throughout the Isthmus. When the cables came announcing that the treaty had been ratified by the United States Senate, and later, when it was approved by the Junta, mass meetings were held in all the important localities, and the action of the Junta in approving the treaty was sanctioned.

Inspired doubtless by this, the National Assembly, fresh from the people, began to devise means for improving the country, and passed bills appropriating large sums for the purpose. Under its provisions a presidential palace and mansions for the various governors, courthouses, police stations, and prisons are to be built. A system of schools is to be inaugurated that will compare favorably with those of other countries. Roads are to be constructed in the interior, bridges are to be built across the streams, light-houses are to be erected at the ports, rivers and harbors are to be cleaned, cities are to be lighted, and a general system of improvement is to be inaugurated.

WHO SHOULD GO TO THE ISTHMUS.

That business will be good here for the next decade is agreed to by all. The number now engaged in it is very large, and many more are contemplating coming here for business purposes. It is utterly impossible to convey, in a report like this, to those who contemplate establishing themselves here, anything like a correct idea of the situation. There is only one thing for such persons to do, and that is to examine conditions for themselves on the ground. It may be stated that no one should come here without at least money enough for present uses and for payment of his passage home in case of failure or of sickness. All will find living expenses and rents high, and conditions quite different from those in the United States.

H. A. GUDGER, *Consul-General.*

PANAMA CITY, PANAMA, *August 9, 1904.*

PHYSICAL DETERIORATION IN ENGLAND.

From United States Consul Hamm, Hull, England.)

The subject of the physical deterioration of the working population of England is attracting the closest attention of the thinking classes in this country at the present time. Books are being written about it; Parliament has had a committee to investigate it; it has been considered at church councils and at health conventions, and some of the most capable physicians in the Kingdom are contributing articles to the newspapers and magazines and vigorously sounding the alarm, so as to create a public sentiment strong enough to demand the correction of existing evils.

The inevitable result that would follow the neglect of proper housing, sufficient food, and right training for the working classes was long ago evident to far-seeing statesmen. But English public opinion on the subject remained dormant until the South African war made the situation so impressively evident that it could not be ignored any longer. As the London Spectator remarks: "An alarmingly large proportion of the men who wished to go on active service were found to be physically unequal to the task which their patriotic enthusiasm desired." An article written by Sir Frederick Maurice and published in the Contemporary Review a few years ago showed that only two men out of every five who offered themselves for enlistment remained in the army as effective soldiers after the expiration of two years; that, in other words, 60 per cent of the population from which the rank and file of the British army is drawn are physically unequal to the not excessive demands which military life makes upon them, even in peace time. It was this article which fixed public attention sharply on the subject, and called out much other literature concerning it. Two books treating the question have recently appeared—"National Physical Training," by J. B. Atkins, and "Physical Deterioration, Its Causes and its Cure," by A. Watt Smyth—and two magazine articles are printed this month.

It is probable, however, that some of the apprehension aroused by the discussion is unfounded and that statements have been made which are not warranted by the facts. This view is strengthened by the report made by the interdepartmental committee appointed by Parliament to look into the question. The investigation of this committee was thorough and its conclusions were, on the whole, reassuring. But while the committee's report does not confirm the worst fears of many who have written on the question, it contains enough to set thoughtful men thinking and to prompt suggestions for a remedy before the situation becomes too acute. A brief summary of the report and some comments on its conclusions, together with enough of the outside discussions to show their drift, ought to be of interest to America.

The report of the Parliamentary committee goes carefully into the causes and the remedies. Among the causes of physical deterioration which it enumerates are overcrowding, pollution of the atmosphere, unhealthful conditions of employment, alcoholism, depletion of rural districts by the exodus of the best types, alleged diminished rate of reproduction among the better classes, bad and insufficient food and bad conditions attending the life of children, such as hereditary taint, employment of mothers too long before and too soon after childbirth, decrease in breast feeding, defective milk supply, parental ignorance and neglect. The remedies proposed are a better school system, medical inspection of school children, more adequate sustentation of children, prevention of risks of contamination during childhood and youth, less juvenile smoking, and better care of the children's eyes, ears, and teeth. All these points are elaborated in the Parliamentary report, and the subject is illuminated by a wealth of facts and expert testimony.

Overcrowding of population, with its attendant evils of uncleanliness, foul air, and bad sanitation, stands out prominently in the report as a cause of physical deterioration. A very general opinion was also expressed by the witnesses called before the Parliamentary committee that the factory employment of mothers has a bad effect on the offspring, both direct and indirect, but opinions differed as to the extent of the evil and the practical steps that could be taken to remedy it. The fact of ignorance and neglect on the part of parents is undisputed, and was testified to by a crowd of witnesses. It was not, however, easy to determine how much of this neglect springs from ignorance and how much from callousness, but at the same time there is no lack of evidence of increasing carelessness and deficient sense of responsibility among the younger women of the present day, which is a discouraging sign, especially as these features are said to exhibit themselves in the country as well as in the towns.

On the question of underfeeding as a cause of physical deterioration, the London school board expressed to the committee the opinion that there were not more than 10,000 children in London suffering from malnutrition; but, in Doctor Eicholz's view, this estimate is contradicted by the actual figures in the report of the joint committee on underfed children, which gives the average number of children fed per week in London during the weeks the feeding centers were open in 1902–1903 as 22,206. He argues that in the first place this figure only refers to children attending board schools; and, secondly, that it is very fallacious as an index of the total number of children who are underfed, because the same children are not being fed all through the season. The result of inquiry shows that on an average the centers feed three times as many children during the season as they feed in any one day, and that the number furnished as the weekly average of children fed may be taken as an index of the daily average of meals provided, and therefore we get 66,000 as the rough total of underfed children attending the London board schools. Besides these, there are the children attending the voluntary schools; and as the amount spent per annum in London by voluntary feeding agencies is £6,100 [$29,686] and £100 [$486.65] spent is said to represent 2,000 necessitous children fed per season, the total estimate of underfed children in London is, roughly speaking, 122,000, or 16 per cent of the whole.

Doctor Eicholz also made inquiries about Manchester, and was assured that 15 per cent of the Manchester children are underfed. Dr. James Niven, the medical officer of health for Manchester, did not give any figures, but expressed the opinion that there were a very large number of underfed children.

Next to the crowding of people into cities, and intimately associated with it, as the outcome of many of the conditions it creates, the question of "drink" occupies a prominent place among the causes of degeneration. The close connection between a craving for drink and bad housing, bad feeding, polluted and depressing atmosphere, long hours of work in overheated and often ill-ventilated rooms, only relieved by the excitements of town life, is too self-evident to need demonstration; nor, unfortunately, is the extent of the evil more open to dispute. In one respect, however, and that one pregnant with evil, there is an admitted increase. The tendency of the evidence was to show that drinking habits among the women of the working classes are certainly growing, with consequences extremely prejudicial to the care of the offspring, not to speak of the possibility of children being born permanently disabled.

The question of juvenile smoking was given some prominence in evidence, and the committee received communications on the subject from the late London school board and one or two antismoking leagues. The evidence submitted on the point represents a practically unanimous opinion that the habit of cigarette smoking among boys is a growing one, and that its consequences are extremely deleterious. No actual testimony was forthcoming to prove that early smoking diminishes growth, but Professor Cunningham mentioned it as one of the causes of physical deterioration; and Doctor Scott was of opinion that scarcely 2 per cent of those showing undergrowth had not been habitual cigarette smokers. The experience of a schoolmaster at Longton was quoted to show a distinct inferiority of physique in boy smokers, and Mr. Atkins adduced evidence from Colonel Leetham, the late chief inspector of recruiting in Manchester, who has said that "perhaps a third of the 'rejects' from the army in Lancashire might be attributed to smoker's heart." This is, no doubt, an excessive estimate, but it shows one bad consequence of early smoking, and it is common knowledge that smoking affects the wind and general physical capacity.

Bad teeth as a contributing cause of physical deterioration received attention, Professor Cunningham giving testimony to prove decided dental deterioration. The report declares that the teeth of the people have unquestionably become much worse of late years, and in many parts of the country may now be described as very bad. On this point there is no difference of opinion, though the acuteness of the evil is said to vary much, and may in some cases be affected by local causes. While affirming the indirect consequences that may flow from the gradual contraction of the jaw, Professor Cunningham had no difficulty in assigning the real cause of dental degeneration to the change that had taken place in the character of the food in common use. Sir Lauder Brunton laid great stress on the fact that dental caries is due to the cessation of the use of food which requires good mastication, and added that the soft foods are more apt to leave particles behind which cause decay. This fact and the aggravation that lack of cleanliness lends to the conditions of the mouth so produced were emphasized by a succession of witnesses, lay and professional.

As a remedy for overcrowding in cities, the committee cites the following method employed in Germany: As soon as the original nucleus of a town has reached certain proportions, a broad zone, with lungs something like the points of a star, is drawn around it; within the zone and the avenues leading outward the population is not allowed to exceed a certain very limited density, and the increase over the density permitted in the center is pushed back beyond this zone. No such town, therefore, however large, in which this plan was followed, would be without its proportion of open space in the immediate vicinity, and the lungs or avenues provide for the indraught of a due quantity of fresh air into the very heart of the city.

The recent French law on public health is also quoted, as it appears to rest on such logical and intelligible principles. In the view of its framers, it was held to be axiomatic, (1) that the whole of any administrative area is threatened by the insalubrity of any of its parts; and (2) that the inhabitants of any commune have a right to be protected against the negligence of its municipality.

Aside from the Parliamentary report, there is much other testimony on the subject, but the general drift of the public discussion is not so hopeful as the tenor of the Parliamentary report. Some of the more pertinent of these utterances are worth quoting. They all agree that the causes of the physical deterioration are many. An authority in the Yorkshire Post says: "Certain writers maintain that improper feeding in infancy is responsible for all the evils; others lay the onus on intemperance; many consider that lack of physical exercise in childhood is largely responsible, and a few attribute degeneracy to bad housing. Undoubtedly all these agencies and many more are at work in the large manufacturing towns to-day, all acting and reacting on each other. At the very commencement of all comes the wage question. The remuneration of the parent determines, among other things, the following: (1) The locality where he must reside and bring up his children; (2) the size of the house; (3) the quality and quantity of the food procurable; (4) whether the mother must augment the family income by going out to work; and (5) within certain limits the age at which his children shall commence labor."

There is an overwhelming consensus of opinion, however, as the London Spectator remarks, that it is to the unhealthy environment of childhood that the alarming state of the average adult of the lower classes must in the main be attributed. How much environment has to do with a child's chances in life was shown in a recent communication printed in the London Daily Telegraph. The writer, who signed himself "A Sanitarian," said that he had an interesting interview with a well-known medical man and bacteriologist as to "What are the chances of a child brought up for the first seven years of its life in a central part of London growing up strong and healthy, enjoying the buoyancy of childhood, and possessing eventually a sound, vigorous constitution?" The typical child having been more closely defined as the child of a poor working man in Finsbury, the expert consulted made the following reply: "Very small indeed, unless the parents are of exceptionally strong constitution and intelligence; but of course that opens up the subject of heredity, as well as of environment. Looking at ordinary conditions, you have to consider housing, food, recreation, and, above all, fresh air. With regard to all these things your London child is at a terrible disadvantage. Take, for instance, overcrowding; it tells appallingly on child life."

Figures were then quoted from the report of the medical officer of health for Finsbury. The population of the borough is 101,463, and concerning these the following are figures for 1903:

Housing and death-rate statistics of Finsbury, London.

Dwellings.	Inhabitants.	Death rate per 1,000.
One-room tenements	14,516	38.9
Two-room tenements	31,482	22.6
Three-room tenements	21,280	11.7
Four rooms and upward	33,185	5.6

How this overcrowding tells on child life is shown by a comparison between Finsbury and Hampstead:

Vital statistics of Finsbury and Hampstead, London.

Borough.	Population.	Birth rate.	Death rate.	Infant mortality.
Finsbury	100,487	31.4	19.8	159
Hampstead	85,190	17.1	9.2	72.7

"In breezy, open Hampstead, with better air and better housing, the death rate is less than half that of crowded Finsbury."

More evidence in the same line was presented at the annual convention of the sanitary institute held in Glasgow during the week of July 25–30. Dr. A. K. Chalmers, medical officer of health for Glasgow, read a paper with reference to the examination of school children in Glasgow. He stated that from a report prepared in the winter of 1902–1903 he found that among the one-seventh of the population—more than 100,000—living in one-room houses the death rate was 33; among 350,000 living in two-room houses the death rate was 21, and among 150,000 living in three-room houses the death rate was 13. In all the other grades of houses the death rate was correspondingly lower. It occurred to him that a death rate graded in that form suggested that there were behind it more or less corresponding gradations in physical conditions.

He also gave details of the results of the examination of children in certain schools in Glasgow, including schools in districts where the death rate was highest, in others in which it was not so high, and in others in which the children were of a better class. The total number of children examined was only 750. Dealing with the relation of height to weight, he gave the following statistics of children at the age of 6: In Glasgow the average weight was 39.1, in Edinburgh 43, and in specially selected Glasgow schools 44.7. The standard of the anthropometric committee is 44. At 7 years the corresponding figures were 46.8, 46.6, 46, and 49. After the age of 9 was passed the Edinburgh children weighed more than the Glasgow children at corresponding ages, and the selected school children were again much in excess of the anthropometric standard. In Glasgow at 9 years the figure was 51.78, in Edinburgh 54.83, and in selected schools 63. The anthropometric committee's standard was 60.

The general conclusion was that in Edinburgh the average weight was greater than in Glasgow at most ages and that the anthropometric committee's standard was greater throughout than that in either city, but that the average weight of boys at a selected school was greater than the anthropometric standard. The average height at most ages in Glasgow was greater than in Edinburgh; the anthropometric committee's standard was greater than the Glasgow standard, but not greater than that of the boys of the selected school. These results more or less confirmed the impressions which the anthropometric committee years ago made plain—that in towns there were children who were both smaller in stature and lighter in weight than children of corresponding ages brought up in the country.

When children were graded according to the class of house in which they lived, it was found that the average height of girls from one-room houses was 43.4, from two-room houses 49.2, and from houses of three rooms and upward 50. The average weight of girls from the same classes of houses was 48.8, 56, and 58, respectively. The average height of boys from these classes of houses was 47.9, 49, and 50, respectively, and the average weight 52.9, 56, and 59.6, respectively.

One of the most thorough investigators on the subject of physical deterioration is Dr. James Niven, medical officer of health of Manchester. In a lecture delivered recently before the Victoria University of that city he considered the effect of feeding on the health of children, and showed by a wealth of statistics the harmful results of poor nutrition. The more important of his conclusions are worth quoting. They are as follows:

"It is of supreme importance," he said, "for the welfare of the nation that children should be adequately fed, so as to develop, as far as heredity and environment will permit, sound minds in sound bodies.

"If children during school life were adequately fed, so that they could profitably receive instruction, and if that instruction were such as to educate them, as far as practicable, so as to make them fit for skilled work, wages would be more equalized, and a higher standard of living would result.

"There are at present various sources of enormous waste going on, of which two stand out very clearly. One of these is drink. If the amount of alcohol consumed in this country could be diverted to the feeding of children, it would maintain 20,000,000 in food, and if reckoned only as beer and spirits, it would maintain 11,000,000, at a charge of 6d. [12 cents] a day, which would be an ample allowance. It may be said broadly therefore that the amount of alcohol consumed is the chief cause of deficiency of food for the young. The remedy is bound to be slow, and a long process of education is required.

"But a great waste also occurs from want of knowledge on the part of mothers of how economically to select, buy, and prepare food. This knowledge should be imparted in the schools. In association with this is the waste due to want of knowledge of the elementary principles of health in relation to breathing, clothing, exercise, cleanliness, and so forth.

"Teachers should be trained to look after the physical conditions as well as after the mental instruction of their scholars, and that training should be practical.

"Legislation is required enabling the educational authority to enforce the provision of sufficient food and the maintenance of cleanliness in school children by parents.

"The educational authority should also be empowered to obtain from the rates sufficient provision for the free feeding of children under certain definite conditions. In all schools kitchens should be provided for instruction in the elements of cooking."

These quotations will indicate the general drift of public discussion on the subject of physical deterioration in England. In all of them, however, one cause is left untouched, and that is the cause which concerns America the most. That cause is the overworking of the laboring population of England from 1840 to 1890, when England had command of the markets of the world, and her mines and manufactories were worked to their utmost capacity, and women and young children were employed in unhealthful trades and under unhealthful conditions. The result was a sapping of the vitality of the working classes, from which they have not yet recovered.

It is in this light that the present situation in England has the most interest for America. The United States is now making vigorous efforts to enlarge its commerce and to introduce its manufactured products into all the markets of the world. This is a commendable ambition, and if it can be realized without diminishing the vitality of the working classes or exhausting resources prematurely, it will add permanently to the wealth and greatness of the Republic. But in doing this, care should be taken to insure future generations against such physical deterioration of the working class as it is feared by many that England is now suffering from. Prosperity purchased at such a price will evidently be dearly bought. On this point Mr. Alfred Mumford asks pertinently in an article in the August Fortnightly Review: "Is commercial antagonism to be the gulf which shall swallow up the civilization of Europe and America? Will industrialism be allowed to build a permanent prison, nay, a charnel house, for its workers? To believe this is to believe selfishness greater than kindness, human hate greater than sympathy; to believe that evil is greater than good."

It is not likely that such harmful results will follow in America, as the standard of living of the working class is much higher there than in Europe, and the child labor and factory inspection laws will act as additional preventives. It is well, however, that the nation should be informed on this subject and that the power of opinion should be brought to bear on the public and on legislatures.

England is now making a vigorous effort to remedy the physical deterioration of her working population which has followed from past mistakes. She will succeed, although it will require a generation or two to restore the lost physical stamina. America could also recover from a similar condition, but it will be better if she is warned by the experience of others and avoids the mistake entirely.

The closing sentences of Mr. T. J. Macnamara's article on this question, published in the August Nineteenth Century magazine, are worth appending. He says: "As a Christian and civilized community I urge that we can not allow an appreciable section of our youth to slouch through lives of suffering and destitution into rickety, misshapen, and very frequently evil-minded adults. I can not blame the social derelicts if they ultimately become a ruinously heavy charge on the public purse as inmates of the public houses and jails. Rather do I blame the community whose happy-go-lucky lack of concern to-day is building up for to-morrow a tremendous burden of financial cost and social degradation—a burden which I am firmly convinced need not in great part exist at all."

WALTER C. HAMM, *Consul.*

HULL, ENGLAND, *August 16, 1904.*

GERMANY'S FOREIGN TRADE.

(*From United States Consular Agent Warner, Gera, Germany.*)

Never before for a corresponding period have the exports from Germany been as large as they were during the first six months of 1904. The following table, from official sources, shows the values of the principal articles exported from January 1 to June 30, in the past three years:

Value of German exports, first half years, 1902–1904.

Articles.	1902	1903	1904
Iron and steel	$67,386,606	$75,728,080	$72,892,022
Cotton goods	38,160,682	46,971,442	52,231,242
Drugs, colors, etc	42,829,528	44,952,250	46,801,510
Woolen goods	39,427,556	41,622,154	44,379,622
Machinery, tools, etc	30,313,584	31,226,314	36,787,660
Groceries (mostly sugar)	38,708,082	38,509,590	35,373,702
Coal and coke	28,154,686	32,369,904	33,919,998
Hardware, toys, etc	20,015,086	20,322,582	21,615,874
Leather goods	17,237,150	19,789,462	20,582,716
Silk goods	19,598,348	22,591,674	19,516,000
Copperware	13,485,556	17,541,314	19,506,242
Mineral ores (including precious metals)	15,720,614	20,477,996	19,455,786
Hides and skins	16,685,466	18,695,852	19,101,642
Food (farm products)	13,397,734	14,997,332	18,539,248
Books, chromos, etc	20,665,540	15,831,284	18,324,334
Paperware	16,362,500	15,277,934	16,044,056
Linen, cloths, etc	12,114,438	14,071,274	15,440,012
Wood and carved work	14,440,888	13,945,610	13,406,778
Ceramics	8,693,188	9,371,012	10,823,050
India-rubber goods	5,650,120	7,930,636	7,521,038
All others	50,135,890	54,528,894	54,568,164
Total exports	529,183,242	576,752,540	596,830,696

Iron and steel.—During the first six months of 1903 the exports of pig iron and steel rails to England, Canada, and the United States exceeded those of 1904 by over 230,000 metric tons. From the fact that the total quantity of iron and steel exported in 1904 was 414,900.1 metric tons, or about 22 per cent, less than in 1903, while the value was only $2,800,000 (not 4 per cent) less than in 1903, it will be seen that a more expensive class of goods was exported than previously. Increased sales were made to France, Italy, Turkey, Germany, South Africa, Argentina, and Australasia. The railroad which is being built in Asiatic Turkey by German capital ordered more than 20,000 metric tons of rails, cross-ties, etc. Argentina has also developed into a good market for German iron and steel, 19,000 metric tons of wire alone having been shipped to that country.

Cotton goods.—Although the United States, England, and Austria continue to be the leading purchasers of this class of goods, South American countries are largely responsible for the increase in the exports of 1904 over those of the previous year.

Drugs, colors, etc.—Aniline colors, products of coal tar, and indigo are the chief articles included in this group. The trade in this class of goods has been normal. The increase is due perhaps as much to the excellence of the articles as to the highly developed qualities of the manufacturers as tradesmen. The United States, England, Austria-Hungary, and France, in the order named, appear to have been the largest purchasers. China was the largest purchaser of indigo, except the United States.

Woolen goods.—These are exported in greatest quantities to England, Austria-Hungary, Russia, and France. South American countries, China, Japan, and Australia have been larger purchasers than heretofore.

Machinery and musical instruments.—It is interesting to note that Australia has developed into the second largest market for German pianos. Italy and Russia have been the chief buyers of steam engines; England, Russia, and Italy of electrical supplies; Austria-Hungary and Italy of weaving machines; England and Russia of steam machinery; Russia, Austria-Hungary, France, and Italy of agricultural machinery. Argentina has been a very satisfactory purchaser.

Groceries.—The trade in groceries, under which are improperly included beer, wine, tobacco, and tropical fruits, has been good and shows a general increase. The increased quantities of liquors which are being sent to the United States attract attention. Japan has become a conspicuous purchaser of alcoholic beverages. The shipments of wine to the United States have been smaller than in 1903.

Coal and coke.—It is interesting to note that 16,069.5 metric tons of coke were shipped to the United States, which is an increase of 5,000 metric tons over the shipments of 1903. Mexico, on the other hand, purchased only 22,429.5 metric tons of coke, against 77,594 metric tons during the same period of 1903. France is the largest purchaser of German coke, and Austria-Hungary, Switzerland, France, and Russia buy the largest quantities of coal.

Hardware, toys, etc.—England and America are the chief markets for these goods. Jewelry, which is included under this heading, has been shipped to Argentina, Brazil, Spain, and Italy in larger quantities than ever before.

Leather goods.—The trade has been active. Argentina and Switzerland have been large purchasers.

Silk.—The United States has become a market for quantities of silk waste. England has purchased more German silk than ever before.

Other articles.—The large increase in the exports of copper cartridges is worthy of mention. China, Turkey in Europe, Russia, and Japan were the chief purchasers. One-half of the total exports of cartridges, etc., were shipped to China and Turkey. The increased shipments of hare and rabbit skins to the United States have been conspicuous. The shipments of rye and oats to Norway, England, Sweden, and Switzerland have been unusually large this year. The quantities of fancy paper articles which were exported this year, especially to the United States, are also worthy of mention. The shipments of ceramics to the United States and to Austria account for the considerable increase in this branch of trade. India-rubber goods of all kinds have found a ready market. The United States has purchased large quantities of solid gutta-percha goods. Argentina has also bought freely.

Causes of the increase.—In explanation of the continued increase in the export trade of Germany, there seem to be two important factors to which it might be well to call attention, namely, the magnificent ocean carriers which the exporting agencies have at their disposition, affording not only cheap but also—what is just as important—regular and reliable transportation facilities, and the thorough knowledge which the commercial interests possess of trade opportunities in all sections of the world.

SOUTHARD P. WARNER, *Consular Agent.*

GERA, GERMANY, *August 6, 1904.*

PREVENTING THE SPREAD OF CONSUMPTION.

(*From United States Consular Clerk Murphy, Frankfort, Germany.*)

The following "measures for preventing the spread of consumption" are again brought to public attention by the city authorities here:

"Consumption of the lungs and throat (tuberculosis) is transmitted to healthy persons from the expectorated matter of consumptives and others when the expectorated matter, after it has dried and become reduced to dust, is breathed in by healthy persons. The feces of diseased persons can exert an injurious influence in like manner.

"By making all such excretions and excrements harmless the spread of consumption can be restricted and healthy persons can be protected.

"In order to prevent the drying and reduction to dust of such matter, every consumptive and every person who coughs (often persons who cough do not know that they are ejecting bacilli of tuberculosis) should take care that it is received in spittoons or cuspidors, or in similar vessels containing a little water, or, still better, chloride of lime or salt water. The use of such liquids is advisable, because they prevent freezing and also the drinking of the water by domestic animals. No cougher should spit upon the floor or ground or in a handkerchief.

"For receiving such matter, cuspidors should be kept in the rooms of persons who cough and on the landings of staircases in all apartment houses, and especially in buildings and rooms of a public character (railway stations, hotels, restaurants, halls, theaters, schools, etc.).

"These cuspidors should be 2 inches high and 8 to 10 inches in diameter. They should have smooth, slightly curved edges, and should be made of smooth glass, porcelain, china, or enameled iron. They should contain water to a depth of about four-fifths of an inch. In places of public concourse a card should be attached to the wall bearing, in distinctly legible letters, the word 'Cuspidor.'

"These vessels should be supplied in sufficient numbers. As the water evaporates, more should be added. In order to prevent the accidental spilling of part of the contents, or the overturning of the cuspidors, they should be suitably fastened or they should have a form which obviates the danger. The cuspidors should be carefully emptied in water-closets, and they should be daily cleansed with boiling water.

"General cleanliness is the first condition for the successful protection of the public health. Consumptives should give especial attention to cleanliness. The sitting rooms and bedrooms of consumptives should have only such curtains, bed coverings, and the like as can be easily washed. There should be no carpets on the floors and none on the staircases leading to such rooms. Upholstered furniture should be used as little as possible and should always be covered with wash stuffs. Iron garden furniture with springs is the best substitute for upholstered furniture. It facilitates the cleaning and disinfection of the rooms and their contents. Mats which are to be laid in front of beds should be of washable jute.

"The entire floors of such rooms should be washed daily for the purpose of removing dust, and even in winter the rooms should be properly aired daily for at least one hour. Once a week the rooms should be thoroughly cleaned, and they should be properly disinfected every third month.

"Uncooked milk may also become a transmitter of consumption. The public is accordingly warned against its use.

"Compliance with these rules, especially with those regulating the disposition to be made of dangerous matter, will remove an element of danger in the intercourse of healthy persons with consumptives and restrict the transmission of this most widespread of all diseases.

"May everyone do his utmost to assist in this movement against a common danger."

GEORGE H. MURPHY, *Consular Clerk.*

FRANKFORT, GERMANY, *August 3, 1904.*

GERMAN TRADE EXPERTS IN FOREIGN COUNTRIES.

(From United States Consul Langer, Solingen, Germany.)

Trade experts of late years have been appointed to be attached to the principal German consulates, aiding the consul-general along economic lines.

Their special duty is to give practical hints and advice to the home trade and its representatives in foreign countries as to the most successful manner of disposing of German wares. They will therefore be expected to call attention to the dangers which may threaten German industry, either through German neglect or through increased activity of foreigners, as well as to noticeable innovations, new raw materials and their treatment, new inventions, improved methods of labor, and any new developements along economic lines that may appear in their district and might be of interest to the German trade and industries.

On the other hand, it is their duty to call the attention of foreign buyers to German products and capabilities of production, conditions of delivery, and favorable opportunities for purchase.

The first trial along this line was made at the consulate-general in New York in 1904. Subsequently trade experts were appointed to Buenos Aires, Constantinople, St. Petersburg, Shanghai, and Valparaiso, and latterly to Pretoria and Sydney.

The activity of these trade experts has not been confined to written reports, but some have visited German industrial districts and personally given to those interested information and advice which has been highly appreciated.

The appointment of trade experts has been fully approved, as has been repeatedly acknowledged by the German Government, and the intention is to gradually enlarge upon it in the future. In view of this fact the foreign office has added $5,000 to the budget, making the total sum for this purpose $42,500 for the year 1904. In 1900, $18,750, and in 1899 only $13,750 were set aside for trade experts.

JOSEPH J. LANGER, *Consul.*

SOLINGEN, GERMANY, *August 9, 1904.*

FRENCH SARDINE CATCH.

(*From United States Consul Ridgely, Nantes, France.*)

The sardine catch of this year is much the best France has enjoyed for five years. In 1902–1903 there was almost no catch at all, and as a consequence French exporters were unable to supply even a reasonably small percentage of the demand. This led to the practice of importing inferior Spanish and Portuguese sardines into France, which were subsequently exported and sold under French marks and labels as of French production. I have heretofore advised you of this fraudulent practice, and the prompt action taken by the Department of State and the Treasury Department served as a salient warning, so effectively, indeed, that the practice was at once stopped in this market, in so far as the United States is concerned. This year, in view of the large catch, there will be no necessity to import any sardines into France from the Iberian Peninsula further than to supply the local demand for those cheaper products.

It is estimated that the catch this year, along the coast from Brest to Bordeaux, will amount to considerably more than 2,300,000 cases, which is above that of an average season. As a consequence, all the packers are working hard to lay in as much excess stock as they can, in view of the possible failure of next year's catch.

It is believed that the good catch this year is due to the early spring and fine warm summer. In 1902–1903 the spring was late and the summer was cold and wet. To this was attributed the failure of the sardines to appear off the French coast.

An idea of the importance of the sardine industry may be had when the exports to the United States alone are considered. During the fiscal year ending June 30, 1902, which was a good year, the declared value of these exports from Bordeaux was $437,225; from Nantes and its agencies, $541,168. This year these exports will probably be exceeded.

BENJ. H. RIDGELY, *Consul.*

NANTES, FRANCE, *August 11, 1904.*

GERMAN SCHOOL FOR EMIGRANTS.

(*From Deutsche Kolonial Zeitung, July 7, 1904.*)

A committee under the direction of Prince Karl von Urach, Count of Württemberg, has sent out a call for the establishment of a German emigration school in Hohenheim. It will offer a one to two year course to Germans and give them information relative to new lands.

An especial aim of the school will be to secure suitable positions in schools or experiment stations, or with farmers, stockmen, etc. The seat of the school is to be the Hohenheim exotic gardens, which cover 19.7 acres.

COTTON PROBLEM IN FRANCE.

(*From United States Consul-General Skinner, Marseille, France.*)

The effort to sustain the French cotton-manufacturing industry is receiving particular attention at this time, through an organization known as the Colonial Cotton Association, representatives of which are visiting the commercial cities of France for the purpose of arousing public opinion. I listened recently to a lecture delivered before the chamber of commerce in this city by M. Paul Bourdarie, the trend of whose argument was as follows:

"The cotton question affects all Europe to-day, and may be set forth in the following terms:

"The entire world produces 14,000,000 bales of cotton, of which the United States alone contributes 10,500,000 bales, or 75 per cent. Moreover, Americans are attempting, with activity and persistence, to monopolize the consumption of the raw material which they produce, and to this end they multiply the spinning and weaving mills of their country, augmenting the number of spindles and installing their factories alongside the cotton fields. The consumption of American cotton in the United States grew from 2,287,000 bales in 1893 to 3,908,000 bales in 1903, and the progress appears to have been much more rapid since then.

"It is evident that the French cotton industry is menaced by death within a brief period if means are not found to remedy this situation.

"In order to supply the 6,150,000 French spindles and the 108,000 looms, the French cotton industry pays each year for the raw material necessary more than 300,000,000 francs ($57,900,000), which go to the United States, India, and Egypt. But even under these conditions, the French industry finds ways of maintaining its position.

"It would be different should the United States succeed in consuming all the cotton which it produces. The 300 French spinning mills and the 650 weaving mills, besides the dyeing and finishing mills, would then have to close their doors, thus throwing into the street, deprived of the means of existence, 250,000 laboring people, and producing an economic crisis of which the consequences would be disastrous.

"This danger may be met very simply by the full utilization of our colonial territories naturally adapted to the cultivation of cotton. The French colonial domain is vast and varied, and in most of our colonies cotton grows spontaneously. The other great European nations, under the same menace, are making efforts to escape the danger. Russia has cotton fields in Turkestan, the production of which is being increased by every means. England possesses India and Egypt, but the cottons produced in these countries are employed for special purposes. The British domestic industry would see itself similarly doomed if England had no other territories. She has found them in western Africa, where she pursues experiments giving hopes of success. Germany is making similar experiments in various African colonies, and particularly in Togo and Kamerun.

"Three of our colonies at this time are particularly favorable to cotton enterprise. They are Sudan, Dahomey, and Madagascar and its dependencies. After a long and careful study of the question, the Colonial Cotton Association has defined its programme as follows:

"(1) To develop and perfect the culture of cotton in the colonies where the natives lend themselves to it, and in all those where this textile is found.

"(2) To study the modes of ginning and pressing compatible with the nature of the cotton and the local resources.

"(3) To study the means of transport, and to endeavor to cause them to be increased and cheapened as much as possible.

"(4) To engage the growers to ameliorate the quality of their product by buying better varieties, and to aid in the creation of purchasing centers.

"(5) To distribute selected native seed or exotic seed in villages, in order to obtain more highly improved species."

ROBERT P. SKINNER, *Consul-General.*

MARSEILLE, FRANCE, *June 30, 1904.*

RAILWAY ENTERPRISE AND DEVELOPMENT IN ENGLAND.

(*From United States Consul Stephens, Plymouth, England.*)

There has been of late a pronounced awakening in the management of English railways. Drastic measures of reform have been inaugurated in nearly all branches, and the companies evidently appreciate the criticisms of their past methods. A remarkable feature of the half-yearly reports is the development of steam and electric motor traffic on many of the more enterprising systems.

The Lancashire and Yorkshire Railway Company pronounce the electrification of the Liverpool and Southport route a most satisfactory experiment. The public show their appreciation of the more rapid and frequent service by traveling in greatly increased numbers. In three months no fewer than 113,000 tickets in excess of the average have been issued.

The Great Central Railway proposes to introduce motor carriages on the North Wales and Liverpool section, and it is generally conceded among railway people that the enterprise will be amply rewarded.

The Midland Railway has placed steam motors on its line between Morecambe and Heysham. These motors, the chairman of the company reports, are bringing in a splendid revenue.

The Metropolitan District Railway Company expects that by the first of next year a considerable portion of its line will be worked by electric-motor power, and that in the near future the whole railway will be transformed.

The Taff Railway steam-motor service between Penarth and Cardiff is working satisfactorily, and a number of new cars are being built for it by a Bristol firm.

The Great Northern Company reports that through alterations in working and changes in fares over a million more passengers than usual have been carried during the last half year.

The London and Southwestern Railway Company are just introducing a service of steam motor cars in this city. Satisfactory trial trips have already been made. This company has suffered from the decrease of shipping at Southampton, the depression in the steel trade, and the strong competition of electric tramways. The directors of the company are, however, highly satisfied with the last semiannual report.

In the Daily Consular Reports of August 2 there was an article on the Great Western Railway Company's service of rail motor cars in this city. The directors have announced their intention of extending the use of these cars. This company is also rapidly extending its service of road motors into all the principal districts of Devon and Cornwall, an experiment which has been attended with the most satisfactory results. During the last half year the passenger traffic has increased by 1,387,143 passengers. The total revenue receipts during this period amounted to nearly $29,000,000.

Every possible effort is being made by the railway companies to compete in the cities with the street car lines. At Plymouth over a dozen new stations, or "halts," as they are called, have been erected to catch this traffic. The outlying districts not reached by rail are being served by a system of motor busses. This system is being extended all over the country. For instance, the London Power Omnibus Company have just ordered fifty more vehicles from the Stirling's Motor Construction Company of Edinburgh.

It is acknowledged that American manufacturers can build these rail motor cars just as thoroughly and cheaply and far more quickly and attractively than English firms. Americans have sold many electric cars in this city and throughout the Kingdom. Many more will be sold.

I would suggest renewed energy to meet the progress and enterprise of the English railway companies.

Jos. G. Stephens, *Consul.*

Plymouth, England, *August 12, 1904.*

INCREASED CANADIAN DUTY ON STEEL RAILS.

(*From United States Consul-General Foster, Ottawa, Canada.*)

Steel rails imported into Canada are now subject to a duty of $7 a ton under the general tariff. Chapter 15 of the act of 1903, assented to October 24, 1903, provides that—

> The governor in council may, by order in council, direct that a duty of $7 per ton shall be imposed under schedule A to the customs tariff, 1897, on all iron and steel railway bars or rails, in any form, for railways, imported into Canada; and, from and after the publication of such order in the Canada Gazette, paid on all such rails; and thereafter item 238 in the said schedule and item 585 in Schedule B to the said act shall be repealed: *Provided, however,* That such order shall not be passed until the governor in council is satisfied that steel rails of the best quality, suitable for the use of Canadian railways, are being manufactured in Canada from steel made in Canada, in sufficient quantity to meet the ordinary requirements of the market.

In accordance with the foregoing authorization, on August 27, 1904, the following order was published in the Canada Gazette:

> The governor-general in council being satisfied that steel rails of the best quality, suitable for the use of Canadian railways, are being manufactured in Canada from steel made in Canada, in sufficient quantity to meet the ordinary requirements of the market, is pleased to declare that the conditions expressed in the proviso in the said section have been satisfied, and to direct that a duty of $7 per ton shall be imposed under schedule A to the customs tariff, 1897, on all iron and steel railway bars or rails, in any form, for railways, imported into Canada, and that this order in council be forthwith published in the Canada Gazette.

The government will not exact this duty upon any rails actually contracted for abroad prior to the date of publication of the order, provided that such rails are imported into Canada prior to November 30, 1904, and are laid upon a Canadian railway track not later than February 28, 1905.

This action of the government is due to the report that the Algoma Steel Company's mill at Sault Ste. Marie is now capable of turning out a quantity of rails sufficient for Canadian requirements.

Doubt is, however, expressed by some as to the adequacy of this supply, and on account of the difficulty of procuring and laying, in the time specified, large quantities of rails contracted for prior to the date of the order, it is suggested that possibly the dates for shipping and laying rails already ordered may be extended.

JOHN G. FOSTER, *Consul-General.*

OTTAWA, CANADA, *August 30, 1904.*

PLAGUE OF FIELD MICE IN FRANCE.

(From United States Consul Jackson, La Rochelle, France.)

A part of this consular district, principally the southern section, has been invaded by immense numbers of "campagnols," or field mice (*Arvicola agrestis*). The presence of this diminutive pest has caused serious concern in the agricultural districts, for the powers of destruction possessed by one of the creatures are tremendous. It not only destroys immense quantities of living vegetation in seeking its food, but lays away an ample stock for winter consumption. There is scarcely a living plant within its reach that is not eaten or destroyed by it.

It has been calculated from experiments that each adult field mouse eats from two-thirds of an ounce to 1 ounce of living plants a day, which means a consumption of from 16 to 24 pounds a year. According to the same calculations, if we consider the loss by destruction at only one-half of the quantity consumed we have a loss of from 24 to 36 pounds a year for each little field mouse.

According to the statement of a local newspaper, in the experiments made during the month of February last in the Department of the Charente, Mr. Chamberland, of the Pasteur Institute, estimated that the average number of field mice to be found at that time upon a hectare (2.47 acres) was 1,350. They consumed annually at least 13½ tons of vegetable matter. In 1893, in the region of Bar-sur-Seine, according to another expert, there were more than 10,000 field mice to the hectare.

It will be seen, then, that the anxiety among the farmers is justified. Such an increase in the number of mice as would be naturally expected would permit them to eat absolutely every bit of living vegetation that a field could produce during the season.

To destroy these pests people formerly resorted to asphyxiation by filling the burrows with smoke or to drowning by pouring water into them or to sowing poison about the fields. The latter method, though the most efficient, proved so dangerous to domesticated animals that it was resorted to only in exceptional cases. At the present day another method is used which is considered much more efficacious—infection by a microbe which is deadly to rats and mice only, domesticated animals being immune to its influence. In 1893 Doctor Danysz, of the Pasteur Institute, while studying the habits of field mice in the Department of Seine-et-Marne, observed that large numbers of mice died apparently from disease. He collected virus from sick animals, made cultures, and assured himself that these cultures absorbed with the nourishment produced the disease in healthy rats and mice. These experiments were made on a large area, nearly 200 acres, and seemed conclusive to the experts. This method of destruction has been recently commenced and carried out systematically on a surface of 2,800 acres, and has proved able to accomplish the destruction of the mice, while the game, fowl, and other animals of the farm were in no instance affected.

The seriousness of the situation is emphasized by the fact that the French Parliament appropriated 295,000 francs ($56,935) to be used for the destruction of the mice. The virus, which is furnished free to departments and townships, is supplied from this fund and is sent directly to the regions affected. The virus is then distributed and mixed with four times its volume of slightly salted water. In this liquid crushed oats are soaked; the oats are then distributed in suitable places near the burrows in such a way as to contaminate as many families or groups as possible at one time. When this has been done, ten or twelve days afterward what is estimated at 95 per cent of the mice have been found dead in the fields.

One would expect from these results that the work would be quickly done, but the "campagnols" are great travelers, and may disappear from one locality to reappear suddenly in another, breeding with great rapidity. The work has been going on for some months, but there are reappearances in regions hitherto unaffected, and it is probable that the fight will continue for many more weeks.

GEORGE H. JACKSON, *Consul.*

LA ROCHELLE, FRANCE, *August 5, 1904.*

CANADIAN NOTES.

(*From United States Consul-General Holloway, Halifax, Nova Scotia.*)

Canadian produce in Japan.—Canada's trade agent in Japan says: "There is a good market here for Canadian flour, butter, cheese, and canned goods. Canadian flour commands 50 cents a barrel more than American, as a result of the higher reputation it has secured through the novel methods of introducing it at the Osaka fair."

Improving navigation at Amherstburg Beach, Ontario.—Dredging has been begun to lower the channel at Amherstburg Beach, Ontario, from the Lime Kilns Crossing to Bar Point on the Detroit River. The contract was for nearly $1,000,000, and it is estimated that the work will require three years. When it is completed it is expected that the obstruction to navigation, which in high south winds has laid up twenty to thirty boats at a time, will have been overcome, and that vessels of 19-foot draft can pass unhindered.

New Brunswick oil for welding purposes.—A trial was recently made in the Intercolonial Railway shops at Moncton, New Brunswick, of the oil produced from the wells at Memramcook. The test was made in the boiler shop, when about forty tubes were welded with the New Brunswick product. A considerable quantity of crude oil is used for welding purposes in the shops, and heretofore the imported article has been the best available.

Coal supply of Nova Scotia.—For years search has been made at Point Aconi, Cape Breton, to locate the outcrop of the main coal seam. Last week this was discovered at a distance of 3 miles from where it was supposed to exist. This discovery will give the Nova Scotia Steel and Coal Company an unlimited supply of coal for years to come without the need of developing the submarine areas.

American flour mill in Canada.—The Ontario Crown lands department has granted the application of the Backus syndicate, of Minneapolis, for an extension of time for the completion of the power works at Port Frances, Ontario, until January 1, 1907, the date on which the contract provides that the power of the falls across the river, which is the international boundary, shall be developed. The syndicate has practically completed arrangements for erecting on the Canadian side of the river a 3,000-barrel flour mill.

W. R. HOLLOWAY, *Consul-General.*

HALIFAX, NOVA SCOTIA, *August 27, 1904.*

PROVINCE OF THE MIDDLEMAN IN TRADE.

(*From United States Consul Lyon, Kobe, Japan.*)

The following article, entitled the "Province of the Middleman," and dealing especially with the efforts of the Japanese merchants to build up trade direct with foreign countries and thus to "exclude the middleman, who in this instance is the foreign merchant," appeared in the Kobe Chronicle, an English journal published at this port, of August 3, 1904:

"To judge from the observations and advice which officials of the finance department have given to merchants, there seems to be an expectation that at the close of the war another determined effort is to be made by Japanese to enter into direct trade relations with foreign countries, the object being to exclude the middleman, who in this instance is the foreign merchant. Whether such a policy will be successful depends, however, not on the wishes of the department of finance or the hopes of the Japanese merchant, but on considerations of economy. Experiments in the past in direct trade have not proved so successful as to warrant others being undertaken without the greatest caution being observed. That ultimately the Japanese will control the bulk of the trade between Japan and the rest of the world is practically certain, but the change will come about gradually, and it will be successful only when the Japanese have mastered all the details of the trade and are in a position to manage it with success from an economical point of view. Japanese merchants are not likely to go on losing money for the mere empty credit of carrying on business with foreign countries direct instead of through the medium of foreign merchants who have made a special study of the conditions. Meanwhile it may be well for the Japanese to consider whether the middleman does not serve a purpose in the commercial economy.

"The Iron Age, of New York, recently pointed out that one of the aims of the great trusts and consolidations organized in America was to eliminate the middleman and save his profit to the consumer, and when the tidal wave of consolidation was at its height prophecies were freely made that brokers, and even jobbers, would find their occupations gone and would have to seek new fields of endeavor. But the prophecy has not been fulfilled. Our contemporary says that it finds in Chicago, for instance, fully as many jobbers and brokers and manufacturers' agents as there ever were in the palmy days of free competition, and many of them are prospering. The fact is," says the Iron Age, "that a man or firm possessing the ability to sell goods and backed with the important asset of favorable acquaintance with buyers will always find goods to sell from some source. It is often a matter of great convenience for buyers of varied lines that enter into their product to place their business with one responsible broker or jobber who represents producers of many lines, rather than to attempt to deal with each of a large number of mills direct, holding the middleman responsible for the seasonable delivery of all their requirements.

"Mutatis mutandis; that observation may be applied to the Japanese trade, though it has to be borne in mind that the endeavor in Japan is not so much to eliminate the middleman as to transfer the business now being done by the foreign middleman into the hands of Japanese. It would be interesting to learn from the finance department or any other advocate of direct trade in what way the country would benefit by such a change. If the foreigners were making huge profits on their handling of foreign trade, and were as a result lading ships with specie to be conveyed to their own countries, where they would ultimately lead a life of leisure, there might be something to be said for the proposal on the inference that wealth was being spent abroad after being made in this country. Everyone is aware, however, that the number of foreign merchants who, as the result of a lifetime of endeavor, make a competence and go home to enjoy it is very small indeed. We doubt if it would not be overstating the case to say that 1 per cent of foreign merchants doing business in Japan since Meiji commenced have been in this favorable situation. And against cases where a competency has been the reward of a lifetime's work must be set the capital that foreign merchants have brought into the country, which has gone in the encouragement of Japanese products and industries and been used to discover markets for Japanese goods which the Japanese would have been slow to exploit both from want of means and lack of knowledge.

"But the desire for direct trade is not entirely with the Japanese. There are manufacturers both in America and in England who believe that they will benefit by excluding the middleman who has hitherto looked after their interest in Japan and dealing direct with the Japanese consumer, or rather with the Japanese dealer, though he is himself a middleman. Salesmen have been sent to Japan with this object in view, and endeavors made to open up direct relations. There are cases where foreign merchants, after taking months and years in building up a trade and spending money to introduce a certain class of machinery or merchandise, have found themselves passed over by the very manufacturers abroad whose goods they were engaged in making known, in the hope that the commission charged for their experience and labor might be saved. Hotel guides have been used by the representatives sent out by such firms as intermediaries and interpreters with Japanese merchants; serious attention has been paid to commercial letters sent from Japan by students, schoolboys, etc., and orders have even been accepted from concerns wholly without reputation or standing, in the hope that a larger profit would be obtained by getting into touch with the Japanese dealer or consumer. The end of such attempts has not uncommonly been that such firms have shut down on Japanese business altogether because of heavy losses sustained, when the fault has been entirely their own in thinking that business could be done profitably where the conditions were not understood. Much time, money, and worry might have been saved if the transactions had been placed in the hands of reputable foreign merchants or Japanese firms of good standing.

"We have heard of cases in the shipping world where firms who have spent years in gathering information of vessels for sale and charter have been passed by, and money which would have been spent in Japan has gone elsewhere, all because the knowledge of the middleman and the information acquired by long experience and study had not been utilized. Theoretically, no doubt, the existence of the middleman is an economic loss, it being true that he produces nothing while he makes his living and his profit by taking a slice off every commodity he handles. Yet in practice it is found that by the knowledge of markets and of business which he brings to the task of disposing of goods, he does after all occupy a place in the social economy which it would be difficult otherwise to fill, just as machinery works with less friction with the application of oil, though the oil is not absolutely necessary in order to make the machinery work."

SAMUEL S. LYON, *Consul.*

KOBE, JAPAN, *August 4, 1904.*

NEW INSURANCE LAW IN CHILE.

(*From United States Consul Mansfield, Valparaiso, Chile.*)

A law affecting foreign insurance companies operating in Chile has been passed by the National Congress, and will go into effect in December of this year.

The bill divides fire companies into first and second class; those with a capital of 500,000 pesos ($182,500) and more to belong to the former and those with a capital of less than that sum to the latter. In estimating the capital of a company the reserve and accumulated funds will be considered as capital. Fire companies of the first class will be required to deposit 300,000 pesos ($109,500) and those of the second class 200,000 pesos ($73,000). Companies insuring against maritime and agricultural risks exclusively will be required to deposit 50,000 pesos ($18,250). The deposits may be invested in unencumbered real estate in Chile, in currency or sterling, or in bonds of institutions accepted by the President of the Republic. Life insurance companies will be of two classes, first and second. The former will be required to deposit, under the same conditions as fire companies, 400,000 pesos ($146,000), and the latter 300,000 pesos ($109,500). They will also be required to deposit 20 per cent of their yearly premiums. Insurance companies will also be subject a yearly tax as follows: Fire, first class, 3,000 pesos ($1,095); second class, 2,000 pesos ($730); life, first class, 4,000 pesos ($1,460); second class, 3,000 pesos ($1,095).

The new law has aroused much interest among insurance men, and it is believed that it will force a number of companies now doing business in the country to retire.

R. E. MANSFIELD, *Consul.*

VALPARAISO, CHILE, *July 8, 1904.*

FOREIGN TRADE OF JAPAN.

(*From Export, a leading German commercial journal, of August 18, 1904.*)

The Japanese Government is going to increase its taxes and tariff in order to meet the expenses of the war now being waged. A bill to this effect has gone through the Japanese Parliament and has met the approval of the Mikado. In this connection a few facts and figures connected with Japan's commerce for the last fifty years will prove interesting and instructive reading.

Up to fifty years ago Japan carried on a policy of practical exclusion, limiting its foreign trade to China, Korea, the Netherlands, and Portugal. Treaties entered into with Great Britain, the United States, France, Russia, and the Netherlands, in 1858, brought Japan within the circle of the world's trade. In accordance with these treaties Japan opened to foreign trade, in 1859, the ports of Yokohama, Nagasaki, and Hakodate, erecting custom-houses for the regulation of traffic and the collection of duties. Eight years later, in 1867, Kobe was opened to foreign trade, and a year later Osaka and Niigata.

The treaties entered into by Japan in the early days of its modern development were far from favorable. This was doubtless due to inexperience in drawing up treaties. According to the treaties entered into between Great Britain, the United States, and the Netherlands on the one side and Japan on the other, signed in 1866, Japan could collect only 5 per cent ad valorem duties. Under these unfavorable conditions Japan was forced to suffer until 1897, when she succeeded in securing an autonomous tariff system. Under this system the imports were scheduled in three classes, viz, (1) dutiable, (2) nondutiable, and (3) forbidden or inadmissible goods. Goods of first class were admitted upon payment of from 5 to 40 per cent ad valorem duties, and were divided into sixteen classes.

Twenty per cent ad valorem was the standard duty which was laid upon ordinary products. The departures from this standard were in favor of (*a*) natural products and raw materials, (*b*) scientific instruments and apparatus, (*c*) machines, (*d*) half manufactured articles, and (*e*) articles of ordinary use, while luxuries, liquors, and tobacco were to pay more than the 20 per cent average. These schedules went into effect in 1899. Later they were changed, for financial causes or for the purpose of aiding home industries. Thus, in 1899 the duties on tobacco were increased to 100 per cent, on alcohol to 250 per cent, and on Chinese and other liquors to from 80 to 100 per cent. In that year the raw materials needed in State-controlled industries were admitted free; also woods for matches, and artificial and natural fertilizers. In 1901 the duty on tobacco was advanced to 150 per cent ad valorem, and that on alcohol was increased. In the next year an ad valorem duty of from 15 to 25 per cent was placed on fresh eggs, as a protection against the Chinese product.

The duties were still further changed in 1902. To cover the costs of war and other expenses the duty on silk manufactures was increased 20 per cent ad valorem; on raw silk, 5 per cent; on silk clothing, 20 per cent; on kerosene and petroleum, 20 per cent; on sugar, 25 per cent; on molasses and sirups, 20 per cent; on alcohols and methyl alcohol, about 1½ cents a liter; on Chinese spirits, 20 per cent ad valorem.

The development of Japan's trade is shown by the following table:

Imports and exports of Japan, 1868 and 1903.

Year.	Exports.	Imports.
1868	$7,776,500	$5,346,500
1903	144,751,000	158,567,500

In other words, Japan's foreign trade in the country's new era has increased twenty-six times in thirty-six years. It is interesting to note that, year after year, the imports of manufactured articles have fallen off more and more, while the imports of raw or half manufactured articles, to be finished in Japan, have increased.

The period before the Chinese-Japanese war, though marked by steady gains, was far inferior in the commercial progress made to the years after that event. In 1895 the imports and exports were expressed by the figures $64,630,000 and $68,056,000, respectively. Much of what the years since 1895 have to show is due to the wisdom with which all parties interested have worked to forward and favor Japanese trade and industries.

The exports consist largely of raw silk, Habutai cotton yarns, matches, mats, camphor, products of the sea, copper, and coal. Raw silk and Habutai yarns lead. The United States and France are the largest buyers. The imports consist largely of machinery, iron wares, petroleum, sugar, raw cotton, cotton goods, and woolen goods.

Up to 1881 Europe led in the trade with Japan, followed by America and Asia. By 1900 this was changed. Asia led, followed by America and Europe in the order named. If one looks a little closer he finds that Japan's exports to Asia increased twentyfold in the twenty years from 1881 to 1901, and its imports from Asiatic countries fourteenfold. The future of Japan is in Asia. This is evident. Commercial relations with other parts of the world have helped Japan a great deal, but their progress has been in no way comparable with the progress of her strictly Asiatic trade. In those twenty years the exports of Japan to Europe increased 463 per cent, to America 680 per cent, and to Australia 325 per cent. In the same period her imports from Europe increased 450 per cent, from America 2,360 per cent, and from Australia 5,690 per cent.

JAPANESE COMMERCE.

(Prepared in the Bureau of Statistics from official returns.)

Total imports and exports of commodities and specie during 1902 and 1903.

Year.	Value of commodities.		
	Imports.	Exports.	Total.
1902	$134,992,973	$128,321,429	$263,314,402
1903	157,549,288	143,821,495	301,370,783
Increase in 1903	22,556,315	15,500,066	38,056,381

	Value of specie.	
	1902	1903
Imports	$15,977,392	$13,814,431
Exports	1,007,974	9,439,599
Balance inflow of specie	14,969,418	4,374,832

NOTE.—In this table and throughout the report the values of exports are the original prices paid, whereas the value of imports are c. i. f.

Gold reserve and note issue of the banks of Japan 1899–1903.

Year.	Gold reserve.	Note issue.
1899	$55,029,000	$112,050,000
1900	32,868,000	107,070,000
1901	34,113,000	92,628,000
1902	53,800,434	114,542,882
1903	56,465,232	105,524,208

Distribution of Japan's foreign trade, 1902 and 1903.

Country.	1902			1903		
	Imports.	Exports.	Total.	Imports.	Exports.	Total.
Asia	$59,790,000	$50,308,664	$110,098,664	$83,765,721	$63,223,826	$146,989,547
Europe	46,656,635	33,292,598	79,949,233	47,748,434	34,925,046	82,673,480
America	24,428,682	41,642,125	66,070,807	23,245,027	42,590,552	65,835,579
British Empire:						
United Kingdom	25,020,268	8,617,369	33,637,637	24,211,860	8,209,187	32,421,046
Hongkong	1,219,555	12,854,928	14,074,483	864,271	14,755,559	15,619,830
India	24,493,090	2,517,357	27,010,447	34,722,478	4,017,428	38,739,905
Australia	830,736	1,575,860	2,406,596	596,502	1,655,325	2,251,827
Canada	256,976	1,731,725	1,988,701	247,914	1,455,084	1,702,997
Straits Settlements	827,305	4,102,460	4,929,765	657,176	3,536,592	4,193,770
Total	52,647,930	31,399,699	84,047,629	61,300,201	33,629,175	94,929,375
China	20,163,501	23,268,849	43,432,350	22,583,037	32,288,361	54,871,398
France	2,357,644	13,554,107	15,911,751	2,537,549	17,029,455	19,567,004
Germany	12,823,663	2,353,298	15,176,961	13,397,475	2,576,170	15,973,645
United States	14,170,168	39,856,635	54,026,803	22,987,331	41,096,264	64,083,595
Dutch Indies	1,781,139	282,257	2,063,396	5,106,682	452,585	5,859,267
Belgium	3,464,948	296,856	3,761,804	3,761,805	243,325	4,005,230
Korea	3,951,598	5,236,354	9,187,952	4,428,515	5,839,800	10,268,315
Asiatic Russia	2,958,832	1,065,764	4,024,596	4,092,727	1,114,428	5,207,155

Imports and exports of cotton yarns, 1894–1903.

Year.	Imports.	Exports.	Year.	Imports.	Exports.
1894	$4,245,987	$489,243	1899	$2,475,457	$14,169,122
1895	3,590,552	545,379	1900	3,498,902	10,228,507
1896	6,053,012	2,124,234	1901	2,421,215	10,624,324
1897	4,879,300	6,667,577	1902	868,325	9,886,850
1898	4,246,347	9,993,689	1903	380,681	15,598,266

Imports of steel rails, 1900–1903.

Year.	Source.			
	United Kingdom.	United States.	Belgium.	Germany.
1900	$447,718	$1,571,880	$63,265	$277,391
1901	175,194	496,383	29,199	102,197
1902	681,310	....	107,063	29,199
1903	559,648	....	145,995	656,978

Imports of wire nails, 1901–1903.

Year.	Source.	
	Germany.	United States.
1901	$330,922	$330,922
1902	481,784	209,260
1903	340,655	384,454

Imports of machinery, 1900–1903.

Year.	Source.		
	United Kingdom.	United States.	Germany.
1900	$2,034,197	$1,313,955	$764,041
1901	2,720,374	1,401,552	910,036
1902	1,630,278	1,386,953	545,048
1903	2,019,598	1,430,751	399,053

Imports of locomotives, 1900–1903.

Year.	Source.		
	United Kingdom.	United States.	Germany.
1900	$905,169	$238,459	$48,665
1901	846,771	423,386	48,670
1902	846,750	355,255	53,532
1903	768,907	559,648	43,798

Trade with important countries, 1893 and 1903.

Country.	1893		1903	
	Imports.	Exports.	Imports.	Exports.
United Kingdom	$18,336,972	$3,114,560	$24,210,838	$8,204,919
United States	3,995,397	17,295,541	22,989,346	41,092,726
Germany	4,803,235	4,808,102	13,397,475	32,284,361
China	10,657,635	856,504	22,585,427	2,574,379
India	5,411,548	1,537,814	34,722,478	4,014,863
Hongkong	5,153,624	9,781,665	866,237	14,755,228
All other countries	8,346,047	18,074,181	38,777,487	40,895,019
Total	56,704,458	55,468,367	157,549,288	143,821,495

Shipping.

	1893	1903
Japanese mercantile marine, gross tonnage (excluding junks)..............tons..	225,218	979,423
Percentage of—		
British shipping to total foreign shipping entered at open ports....per cent..	65	56
German shipping to total foreign shipping entered at open ports.......do....	14	15
United States shipping to total foreign shipping entered at open ports..do....	6	11

DROUGHT IN EUROPE.

(*From United States Vice-Consul-General Murphy, Frankfort, Germany.*)

The severe drought which is inflicting European countries has had various injurious effects. It has caused frequent and large conflagrations; it has stopped river navigation entirely in many districts, causing a scarcity of fruits and garden truck, coal, wood, etc., and greatly advanced prices; it has forced works operated by water power to cease running. But it is particularly the insufficiency of feed stuffs for cattle and horses which causes anxiety in agricultural and commercial circles.

The Governments of Bulgaria and Roumania have already issued decrees prohibiting the exportation of corn and other cattle feed. Exceptional freight rates, amounting to a reduction of about 50 per cent, are given by Hungarian and Prussian railroads for corn and feed stuffs. The beef and pork supply will be diminished, as farmers are averse to paying high prices for the feed required for raising stock.

Servia and Austria-Hungary also have issued decrees prohibiting the exportation of corn, hay, and other feed stuffs. The order of the Austro-Hungarian Government is most rigid and sweeping, as it includes, in addition, bran and barley, potatoes and beans, oil cake, clover, and the husks, dregs, and waste materials of malt and sugar beets; in short, everything, even including swill, which can serve as food for animals.

Roumania and Austria-Hungary have heretofore been the principal European supply sources for corn and feed stuffs for the other countries of western Europe. This source of supply now being closed, Germany, Italy, France, Switzerland, Belgium, Holland, and England, as well as the Scandinavian countries, will have to depend principally upon the United States and, to a smaller extent, upon Argentina for food for their cattle and horses.

GEORGE H. MURPHY, *Vice-Consul-General.*

FRANKFORT, GERMANY, *August 13, 1904.*

REFORMS WANTED IN THE MARITIME PROVINCES OF CANADA.

(*From United States Consul-General Holloway, Halifax, Nova Scotia.*)

The Maritime Board of Trade at its recent session at Moncton, New Brunswick, passed resolutions requesting the governments of Nova Scotia, New Brunswick, and Prince Edward Island to cooperate in the publication and distribution in Great Britain and Ireland of literature showing the advantage of these provinces for desirable immigrants.

In these resolutions the board declares that the depression in the shipping interest of the maritime provinces is chiefly due to existing treaties between the Imperial Government and the several European governments, and requests the Canadian government to use its influence with the Imperial Government to have such treaties, so far as they concern the Canadian coasting trade, annulled. It views with alarm the decline in the lobster industry, and asks the government to be more active in enforcing measures for the protection of the fishery by instructing officers to suppress illegal fishing, and establishing stations at suitable places for the education of fishermen. It favors a subsidy for reduction works and plants for canning all kinds of fish, including dog fish—the latter to be put up, under another name, for shipment to China, Japan, Italy, and other countries where there is a market for that kind of fish. It commends the principle of a government loan to steel shipbuilding as offering a new and profitable field for the utilization of steel products and the employment of skilled labor, and, more than all, the creation of a new mercantile marine, which would be a great source of wealth to the country. It urges a law requiring the weight of canned goods to be marked on each package, with severe penalties for its violation. It demands equal privileges on government railroads for competing express companies, and the inauguration, with the aid of the government, of the long-promised fast Atlantic steamship service.

Complaint was made at the meeting against Canadian banks for excessive charges in cashing checks. It was stated that in the New England States no charge was made for cashing checks on banks of the clearing house, and only one-tenth of 1 per cent for cashing checks on outside banks. It is thought a reasonable proposition would be to ask the banks to regulate exchange on the basis of express company charges, 3 cents on checks up to $5, 6 cents on checks up to $10, and 10 cents on checks for $10 to $30. In consequence of the unequal rates, many wholesale houses were reported to be remitting all amounts under $50 by express money order. A committee was named to confer with the clearing houses at Halifax and St. John with a view to reform in this direction.

It was stated that most of the points of historic interest in the maritime provinces are in the hands of private parties, unsightly and unmarked. It was resolved to petition the Dominion and provincial governments to take such action as will result in the public ownership of the most important of the spots commemorative of Canada's past, with a view to placing them under the control of historical societies.

The board declared in favor of government ownership of cable and telegraph lines, and made serious objection to the manner in which the customs officials levied the special duty demanded by the "dumping clause" of the recent tariff act. The rate was left to the discretion of officials who, it was said, have defeated the purpose of the act by assessing minimum charges. The board desires that the officials be instructed to collect the maximum rate.

The agitation and efforts to impose the highest possible special rate on "dumped" goods from the United States are said to be due to the stockholders and friends of the Dominion Iron and Steel Company, which receives a large subsidy from the Dominion government, because the United States Steel Company threatened that if the Canadian nail manufacturers refused to agree not to buy steel rods from the Dominion

Company, at Sydney, Nova Scotia, the United States Company's nails would be sold throughout Canada at slaughter prices until the Canadian mills would be forced to close.

W. R. HOLLOWAY, *Consul-General.*

HALIFAX, NOVA SCOTIA, *August 22, 1904.*

WHEAT CROP IN MANITOBA AND THE NORTHWEST TERRITORIES.

(*From United States Consul-General Holloway, Halifax, Nova Scotia.*)

Telegrams from Winnipeg state that during the last week several representatives of American companies have been in Manitoba, and have succeeded in causing a good deal of uneasiness among the farmers and grain traders.

Samples of grain pulled in fields in nearly every district in the Northwest have been received at the Winnipeg grain exchange. A few show signs of rust, but most of the samples indicate that the grain is in healthy condition.

The Ogilvie Flour Mills Company has just received replies by wire from 70 of its 95 elevators in Manitoba and the Northwest Territories, giving the condition of the wheat crop to date. Particular attention was called to damage from rust. These replies are on the whole very reassuring. Of the 70 stations heard from, 39 report no damage at all, 16 report only slight damage, and 15 report damage all the way from 15 to 30 per cent. The districts most affected are located on the Souris branch and the western half of the Delorane branch, where the crop is heaviest.

Taken as a whole, these reports indicate an average damage of under 10 per cent in Manitoba, and practically none in the Territories. The average yield from these stations is 19 bushels to the acre and the average date of general harvesting is August 27, assuming favorable weather. There are under crop approximately 3,500,000 acres, so that the total yield is estimated at about 65,000,000 bushels. This is the estimate made about a week ago by the Bankers' Association.

W. R. HOLLOWAY, *Consul-General.*

HALIFAX, NOVA SCOTIA, *August 23, 1904.*

PROTECTION OF CERTAIN RUSSIAN PORTS IN WAR TIME.

The following article from the St. Petersburg Gazette of July 28 (August 9 by the Gregorian calendar), 1904, has been supplied, in its translated form, by the Department of State, under date of September 8.

"The committee of ministers, having examined on March 16 [28], 1904, the proposition of the director-general of navigation and commercial ports, of the ministers of foreign affairs and war, and of the director of the naval ministry, dated March 12 [24], 1904, No. 1640, treating of the measures to be taken for the protection of Russian ports in time of war, has given the following opinion:

I. The temporary regulations for the protection in time of war of Russian military and commercial ports, so long as martial law shall not have been proclaimed therein, shall be submitted for the sanction of His Majesty the Emperor; they shall be applied, on a given date, after a preliminary understanding between the director-general of navigation and commercial ports, the ministers of foreign affairs and war, and the director of the naval ministry; they shall be applicable only during the present war.

II. The minister of foreign affairs shall be charged (1) with informing immediately the governments of foreign powers of the existence of said regulations, and (2) with entering into conference with the governments in question in order that, until the end of the present war, the Imperial Government of Russia may be opportunely informed of the arrival in Russian ports of war vessels belonging to these powers.

"His Majesty the Emperor has approved the opinion of the committee of ministers and has deigned to inscribe with his own hand on the draft of the temporary regulations, 'Let it be thus,' St. Petersburg, March 25 [April 6], 1904.

"In communicating to the governing Senate the text of the 'temporary regulations for the protection in time of war of certain Russian ports, so long as martial law shall not have been proclaimed therein,' the director-general of navigation and commercial ports notified it that according to the terms of section I of the opinion of the committee of ministers, approved by His Majesty the Emperor, the director-general of navigation and commercial ports, the ministers of foreign affairs and war, and the director of the naval ministry reached an understanding and fixed a period of twenty days for the application of said temporary regulations. The director-general of navigation and commercial ports, the minister of war, and the director of the naval ministry likewise agreed to fix the limits of the radii of protection of the ports to which the present regulations are to be applied. These limits are as follows:

"For Sveaborg. Starting from the right flank of the fortress, from the island of Lovo (to the north of the island of Drumso) along the west shore of Counts Island (Drumso) to the southwest extremity of Peredovoi (Miolko) Island to Khramtsoff Reef (meeting point of the pilots), following the southeast shore of the island of Stoura-Miolo to the island of Matalacara, the eastern extremity of the island of Willingo, and the islands of Lovholm, Sandholm, and Droningholm.

"For the port of Cronstadt. To the east of the meridian of the London light-ship.

"For the port of Libau. At a distance of 5 miles seaward from the shore, 9 miles northward and 5 miles southward along the shore from the port of Libau.

"For Sevastopol. The line of intersection of the Inkermann light-houses NW.-SE. 85° 20′, the straight line from the Kherson light-house NE.-SW. 56°, and the line of intersection of the church of the cemetery with the house of the watchman on Mount Rudolphe NW.-SE. 17°.

"For the port of Otchakoff. The line from Berezane Island to the tongue of land of Kinbourne.

"For the port of Batum. The straight line from the extremity of the pier in the direction of Bouronne-Tabie NE.-SW. 64° (as far as Sibiriakoff villa) for steamers of over 500 tons net. As, owing to local conditions, other vessels can not stop on the aforementioned line, sailing vessels of over 500 tons net will be authorized to enter within the radius of the outer roadstead, and those of less than 500 tons within the radius of the inner roadstead. Large vessels will not be permitted to approach the entrance of Cape Green (latitude 41° 42′) nearer than 500 sagenes (3,500 feet) and small vessels nearer than 250 sagenes (1,750 feet).

TEMPORARY REGULATIONS FOR THE PROTECTION IN TIME OF WAR OF CERTAIN RUSSIAN PORTS, SO LONG AS MARTIAL LAW SHALL NOT HAVE BEEN PROCLAIMED THEREIN.

(*Sanctioned by His Majesty the Emperor, March 25* [*April 6*], *1904.*)

As long as martial law shall not have been proclaimed in the ports of Cronstadt, Sveaborg, Libau, Sevastopol, and Batum, and the fortress of Otchakoff, the special measures hereinafter mentioned shall be taken there for the purpose of securing unity of action among the organs of government instituted to insure public safety (articles 2 and 3), with regard to the formalities to be observed by commercial vessels in entering the protected area.

2. The general control of the measures for the maintenance of security in the harbors, roadsteads, and, generally speaking, all the space occupied by the above-mentioned ports (article 1), as well as by their establishments and buildings, is intrusted at Cronstadt to the commander in chief of the port at Cronstadt; at Sevastopol, to the commander in chief of the Black Sea fleet; and at Sveaborg, Libau, Otchakoff, and Batum, to the commandants of these places.

3. The officer in charge of the defense of the port is intrusted with directing and supervising the execution of all the measures of order and security emanating, according to the laws in force, from the military and naval authorities, from the administrative authorities of the port, and from other administrative authorities established in the port.

4. Vessels bound for one of the above-mentioned ports (article 1) are obliged not to approach it nearer than the radius fixed for each port, without having provided themselves in each case with a special permit emanating from the authorities of the port. The latter do not grant this permit until they have examined the proper persons and, in case of necessity, visited the vessel.

5. The areas mentioned in article 4, as well as their limits, are fixed by common accord by the director-general of navigation and commercial ports, the minister of war, and the director of the naval ministry, and are made public at the same time as the present regulations. These high officials are also obliged to formulate by common accord the instructions defining the method of making the examination (of persons) and the preliminary visitation (of the vessel), to authorize the approach of the vessel to the port, to designate the administrative officers of the port who are to be delegated for this purpose, and to indicate the coercive measures to be taken by the port authorities.

NOTE.—As regards the port of Sveaborg, the measures enumerated in the present article are taken by common accord by the minister of war and the director of the naval ministry. Complaints of private parties (article 15) against the dispositions made by the officer in charge of the defense of this port (article 2) must be presented within one month to the minister of war, who decides on them after an understanding with the director of the naval ministry.

6. Access to the port within a distance less than the radii indicated in article 4 is allowed vessels only from sunrise to sunset. The officer in charge of the defense of the port may, in exceptional cases, prolong this period and authorize certain vessels to enter the port during the night.

7. An administrative officer of the port must be sent out to vessels which are approaching the radius of the port. Upon the arrival of this officer on board the vessel, the captain or the person taking his place, after having received a copy of these regulations, is obliged to deliver to the said officer all the ship's papers and documents relating to the cargo, and, if the officer demands it, to give all the explanations required, to allow the visitation of the vessel in all its parts, and to have opened for this purpose all the holds, coal bunkers, and other parts of the vessel.

8. All communication between the vessel and the coast is prohibited until the preliminary examination, and, if necessary, the visitation of the vessel have been carried out.

9. If, after the examination, and, if necessary, the visitation, the authorities of the port deem it possible to admit the vessel into port, these authorities cause a special flag to be hoisted on the foremast.

10. Every vessel which has been refused access to the port must withdraw therefrom as soon as the order to that effect has been given it.

11. In case the authorities of the port do not deem it possible to allow the unloading of the vessel on the mooring line, this operation must be performed by means of lighters while the vessel is at anchor or moored to a buoy. If the captain or the consignee of the vessel does not consent to submit to this regulation the vessel is obliged to quit the port.

12. In case vessels do not comply with the provisions of articles 4, 10, and 11, it is the duty of the officer in charge of the defense of the port to compel the vessels in

question to submit to these provisions, and even to employ armed force for this purpose if necessary. The captain of the vessel or his substitute is responsible for the consequences which these measures may involve.

13. If there should be in the ports designated by the present regulations any commercial houses or private persons who are the owners or consignees of vessels, such commercial houses or private persons, as soon as they have been informed that a vessel consigned to them has left a Russian port or any foreign port, must communicate to the port authorities information concerning the port of departure of the said vessel, indicating the date of its departure, the approximate time of its arrival, its name, and its nationality.

NOTE.—The commercial houses and private persons mentioned in the preceding article may, in order to expedite the free passage into port of a vessel consigned to them, communicate to the authorities of the port, besides the information required by article 13, also data concerning the merchandise with which such vessel is laden, the quantity thereof, its place of shipment, its destination, and the nationality of the captain of the said vessel.

14. If the information mentioned in article 13 and the note thereto appended is communicated within the proper time to the administrative authorities of the port, the vessels should be admitted, if possible, into port after a preliminary examination and without being subjected to the visitation mentioned in article 4.

If, however, it is discovered, with regard to any vessel, that the information indicated in article 13, although received in due time by the owners or consignees of the vessel, has not been communicated to the administrative authorities of the port before the arrival of the vessel, the persons who have, without plausible reason, refrained from communicating this information to the proper authority, may be punished by order of the officer in charge of the defense of the port by a fine not exceeding 500 rubles [$250].

15. Complaints of private parties against the measures taken by the officer in charge of the defense of the port, according to articles 4 to 14 of the present regulations, must be presented within one month to the director-general of navigation and commercial ports (except in the cases contemplated by article 5). This high official decides on these complaints after having submitted them to the examination of the committee on fort matters, assisted by a representative of the naval ministry.

In case, within the committee, the delegates of the ministries of war and navy are not in accord with the decisions reached by a majority of the members of the committee, the matters in question are transmitted to the proper person according to articles 52 and 53 of the organic statutes of the office of director-general of navigation and commercial ports, approved by His Majesty the Emperor on June 10 [22], 1903.

"The committee of ministers, having taken cognizance on May 26 [June 7], 1904, of the communication of the minister of war dated May 19 [31], 1904, No. 383, regarding the application to the port of Viborg of the temporary regulations ratified by His Majesty the Emperor March 25 [April 6], 1904, concerning the protection in time of war of certain Russian ports so long as martial law shall not have been proclaimed therein, the said committee was of opinion that there is reason for applying these regulations also to the port of Viborg, provided, (1) that, conformably to article 2 of the said regulations, the commandant of the fortress of Viborg be charged with taking all the measures required in order to maintain the integrity and safety of the whole space occupied by the port of Viborg and the dependencies of the port, and (2) that the minister of war and the director of the naval ministry shall receive the same full powers with regard to the port of Viborg as those which they enjoy with regard to the port of Sveaborg (note appended to article 5 of the said regulations). His Majesty the Emperor approved this opinion of the committee of ministers on June 6 [18], 1904.

"The director-general of navigation and commercial ports adds to the foregoing that, according to section I of the temporary regulations ratified by His Majesty the Emperor on March 25 [April 6], 1904, it has been decided by common accord by the director-general of navigation and commercial ports, the ministers of foreign affairs and war, and the director of the naval ministry that the said temporary regulations shall be applied within a period of twenty-one days after the publication of the opinion to the effect that they shall be applied likewise to the port of Viborg, and that, comformably to article 5 of the said regulations, the director-general of navigation and commercial ports, the minister of war, and the director of the naval ministry have defined the limits to the radius within which the said regulations shall be applied as follows: From Cape Poulliniemi to the northeastern extremity of the island of Teykarsaari, on the southwest shore of this latter island as far as the island of Kiouskerine-Saari and Cape Pitkeniemi."

IMPORTS OF CUBA.

(*From United States Minister Squiers, Habana, Cuba.*)

I give herewith a table showing Cuba's import trade for the first quarter of 1904 and for the same quarter of 1903. These figures are of special interest, in that they cover the first quarter after December 26, 1903, the date on which the reciprocity treaty went into effect.

Imports of Cuba, first quarters of 1903 and 1904.

Whence imported.	1903	1904	Increase (+) and decrease (−).
United States	$7,057,473	$7,347,483	+ $290,010
Other American countries	1,943,680	1,683,182	− 260,498
Germany	1,086,228	1,384,835	+ 298,607
France	1,139,211	1,247,649	+ 108,438
Great Britain	2,772,406	3,507,704	+ 735,298
Spain	2,797,077	3,356,070	+ 558,993
Other European countries	425,261	678,689	+ 253,428
Other countries	122,097	176,021	+ 53,924
Total	17,343,433	19,381,633	+2,038,200

The percentages of the several countries in this increase were as follows: United States, 14; Germany, 14; France, 5; Great Britain, 36; Spain, 27; other European countries, 12; other countries, 2. American countries other than the United States show a decrease of 12 per cent.

American merchants and manufacturers will find but little satisfaction in these figures. The imports into Cuba from the United States show an increase of but 3 per cent, while those from England, Germany, Spain, and France increased 20, 21, 16, and 8 per cent, respectively; and I am unofficially informed that the Cuban exports to the United States have very largely increased.

I never fail to impress upon the President and the Cuban merchants and planters with whom I come in contact the danger to reciprocity in the present uneven trade between the two countries, and that American merchants and manufacturers will not long support an arrangement which largely increases the market for Cuban productions and, by comparison at least, decreases the sale of our own. The situation is pretty well understood and it will not be difficult to obtain from the Cuban Government a proposition for the admission of goods of American origin on a more favorable basis.

I am unable at present to give the various import items in detail, but I hope to do so in a short time.

H. G. SQUIERS, *Minister*.

HABANA, CUBA, *August 6, 1904.*

TRADE OF JAPAN DURING FIRST SIX MONTHS OF 1904.

(*From United States Consul-General Bellows, Yokohama, Japan.*)

TOTALS.

Complaints of dullness in trade, owing to uncertainty regarding war prospects, were very general last fall and during the early winter, but the actual beginning of hostilities in February was the signal for renewed activity along many lines, and the total commerce for the first six months of 1904 amounted to $159,410,086.44, a gain of $14,010,229.52, or 9½ per cent, over that of the corresponding period in 1903. While it is true that the importation of war material has contributed considerably to this result and to that extent the showing does not represent a natural permanent growth of the commerce of the country, still there was a marked increase independent of war purchases. In exports, which the existence of war could not affect unless adversely, the gain over last year was 9 per cent.

IMPORTS.

It is noticeable that the imported articles in which the gain is greatest are mostly such as are used in the production of other articles, indicating the development of domestic industries rather than increased use of foreign luxuries. Thus the importation of cotton, raw in the seeds, almost doubled, while that of cotton cloth and cotton yarn decreased; the importation of wool nearly trebled, but that of most kinds of woolen cloth fell off; more pulp for making paper was imported than during the corresponding period of 1903, but less printing paper and less other paper; the importation of hides and skins nearly doubled and that of sole and other leather increased 55 per cent, but manufactured leather goods were not imported in sufficient quantities to be named in the statistics of trade; there was an increase in the importation of most kinds of iron goods except rails and fittings of rail, but the greatest gain in iron, both absolutely and relatively, was in pig and ingot iron; the imports of phosphatic manure, for the purpose of promoting a larger yield of agricultural products, increased from 11,833 tons during the first half of 1903 to 28,793 tons during the first half of 1904.

The principal articles of which the importation has been directly affected by the war are coal and wheat flour. Purchases of the former increased from 48,665 tons in the first six months of 1903 to 382,755 tons during the same period in 1904; those of wheat flour from 42,815 to 67,772 tons. This great advance in the amount of coal imported was not due to an insufficient home supply, since, during the same months in which Japan imported 382,755 tons, she exported more than 1,500,000 tons of a different grade from that purchased.

The United States, which has had almost a monopoly of the trade in wheat flour, profited most by the increased use of this commodity, though both British America and Australia multiplied their former quota many times. A native newspaper is authority for the statement that Japanese millers find it profitable to mix American flour with the product of their mills, thus securing a better grade. Although the United States has benefited greatly by the war purchases, the percentage of increase in value of the importations from the United States is not so great as the percentage of gain in all the imports into Japan, being only a small fraction more than 7 per cent.

EXPORTS.

A study of the exports from Japan during the first half of 1904 and 1903, respectively, discloses further evidence of advance in manufacturing industry. With the exception of a few articles, the gains are noticeably in manufactured goods, as distinguished from raw material and agricultural products. The increase in the exports of cotton tissues is especially remarkable, and a local newspaper reports that three cotton mill companies have ordered an aggregate of 1,585 weaving looms in anticipation of further growth in the Chinese demand for these goods.

JAPANESE COMMERCIAL MUSEUMS IN CHINA.

An association is being organized by the chambers of commerce of several Japanese cities for the promotion of trade with China by means of commercial museums. An effort will be made to induce the Japanese Government to erect suitable buildings in China and rent them to the association for the display of Japanese goods. The idea did not originate with them, for similar exhibitions of mercantile goods have been made here by European countries, but the plan which they have outlined for acquainting the Chinese with the merits of Japanese wares is more complete and systematic than anything which has been done by other nations in Japan.

The advisability of American merchants establishing show rooms of this kind in oriental cities has before been urged in these reports.

SPECIE AND BULLION.

Since July, 1903, the exports of specie and bullion have exceeded the imports each month except October. During the fiscal year ending June 30, 1904, the net amount withdrawn from the country was $38,268,252.85. This sum will more than counterbalance the excess of imports of specie and bullion which had occurred during some time previous, and in the absence of any important native production will leave the volume of specie currency in the country at a lower ebb than it had reached for several years. However, there is no evidence of loss of confidence in the financial system, and bankers report that the situation shows no symptoms of danger.

E. C. Bellows, *Consul-General.*

Yokohama, Japan, *August 11, 1904.*

MORE CHANGES IN CANADIAN TARIFF.

Under date of August 23, 1904, United States Consul-General Holloway, Halifax, Nova Scotia, sends a copy of a memorandum giving changes in the tariff made during the recent session of the Canadian Parliament, which has been sent to Canadian collectors of customs.

VALUATIONS, ETC.

"Attention is directed to the provision for the valuation of mixed goods invoiced at a uniform price.

"Note particularly the requirements for the valuation of consigned goods at not less than the actual charge to the Canadian purchaser when sold by the exporter prior to shipment.

"Section 8 of the customs act is repealed.

"The imperial standard gauge is substituted for the 'Stubbs gauge.'

CASED LIQUORS.

"Cased liquors warehoused prior to June 8, 1904, and cased liquors purchased prior to June 8, 1904, and warehoused prior to September 1, 1904, may be ex-warehoused according to actual measurement, as heretofore, until December 31, 1904.

MOLASSES.

"Under section 18 of the tariff amendment, molasses admitted to entry under item 441 of the customs tariff, 1897, must be imported direct from the place of production, or its shipping port, under regulations made by the minister of customs.

"These regulations require that molasses produced in the foreign West Indies and admitted to entry under said tariff item 441 shall be imported direct to Canada by vessel from a port in the West Indies.

"Direct shipment is also required in respect of molasses produced in British countries and admitted free.

TEA AND GREEN COFFEE.

"The certificate as to purity is dispensed with in regard to importation of tea and green coffee from the United Kingdom. Tea is subject to inspection, however, as heretofore, on importation into Canada.

BUGGIES, STALLIONS, AND MARES.

"Note minimum values of buggies and the prohibited importation of stallions and mares of less value that $50 each (and over 1 year old).

SPECIAL CUSTOMS DUTY.

"In making customs entry the 'special duty' may be shown by itself in the 'net duty' column of the entry on the line below the article subject to special duty or on the line below continuous numbers of articles subject to special duty.

"Goods of a class or kind made in Canada are subject to special duty when sold for exportation to Canada at a less price than for home consumption in the country of export.

"The 'special duty' is applicable to goods which are subject to specific duties as well as to goods subject to ad valorem duties on importation into Canada, and also to round rolled wire rods not over three-eighths of an inch in diameter.

"The following articles are subject to a special duty equal to the difference between the 'selling price' and the 'fair market value'; but not exceeding 15 per cent ad valorem in any case, viz:

"(Item 224.) Pig iron, iron kentledge, and cast scrap iron.

"(Item 226.) Steel ingots, cogged ingots, blooms, slabs, billets, puddled bars and loops or other forms less finished than bars.

"(Item 228.) Rolled iron or steel angles and other structural shapes, etc., weighing not less than 35 pounds per linear yard.

"(Item 231.) Rolled iron or steel plates not less than 30 inches wide and not less than one-quarter of an inch thick.

"By the regulations (in force only from this date) under subsection 8 of the special-duty clause (except as otherwise decided in specified cases) the special duty is not to apply when the difference between the fair market value and the selling price of the goods to the importer in Canada does not exceed 5 per cent of their fair market value—the whole difference, however, when exceeding 5 per cent, to be taken into account in cases where special duty is applicable.

"Goods subject to duty equal to 50 per cent ad valorem under the general tariff are by regulation exempt from 'special duties' from this date (August 10, 1904)."

NEW CARBON COMPOUND.

(*From United States Consul Covert, Lyon, France.*)

At a recent meeting of the Academy of Sciences of France, held at Paris, M. Henri Moissan presented a paper concerning the preparation and characteristics of a new carbon compound containing molybdenum. This compound is obtained by heating charcoal with melted molybdenum and aluminum in an electric furnace. The resultant metallic mass is treated with a concentrated solution of potash, and needles of well-defined crystals of the new carbon compound are obtained.

The substance is very hard, is hardly attacked by acids other than nitric, and is not decomposed by water or steam at a temperature below 600° C. It resembles the carburet of tungsten, already known, which is not considered surprising, as the metals tungsten and molybdenum are much alike. It is thought that this new compound may play a rôle in molybdenum steels.

The method of preparation shows that even at a rather high temperature (that of boiling aluminum) a molybdenum compound is obtained which contains twice as much carbon as the compounds formed at the highest heat obtainable in the electric furnace.

John C. Covert, *Consul.*

Lyon, France, *August 17, 1904.*

HARBOR IMPROVEMENTS AT HAIFONG, INDO-CHINA.

(*From United States Consul Covert, Lyon, France.*)

On May 25 last the bids for the improvements in the harbor of Haifong were opened by the officials of the government of Indo-China. The bids provided for the construction of a quay 750 feet long on the right shore of the Cua-cam, at a place between the iron bridges and the docks of a number of mills. On the 1st of November next bids will be opened for the building of a slip some 800 feet long, capable of receiving ships of the largest tonnage. The expense of these improvements is calculated to reach $520,000 to $540,000, $400,000 for the first and from $120,000 to $140,000 for the second.

Haifong is the maritime terminus of the entire Tonkin system of railroads, and its commerce is destined to increase with the new facilities which are now being added to the port. At present ships drawing 5 feet of water are not certain of always being able to moor at her docks. Ships drawing 6 feet or more of water are compelled to discharge their cargoes in the bay of Along, which necessitates a great expense.

It has been proposed several times that Haifong be made the terminus of the packet boats of the Messageries Maritimes Line, it having been assured that it would shorten by at least two days the voyage between Marseille and Tonkin, and materially improve the passage from Saigon to Haifong, in which passengers are compelled to put up with small craft that sail very slowly and afford but very inferior accommodations. This will be effectively remedied when the projected improvements are completed, for these will render the port of Haifong thoroughly accessible.

Haifong is a city of 16,000 inhabitants, the first port and the second city of Tonkin; the capital of Tonkin, Hanoi, has about 60,000. Three years ago there were not over 2,500 Europeans in the whole country, but it is said that the European population is increasing rapidly at present. The soil is said to be capable of producing everything in the way of meats and cereals, but the climate is enervating, and it is difficult to induce people to exchange the climate of Europe for it.

JOHN C. COVERT, *Consul.*

LYON, FRANCE, *August 16, 1904.*

NEW RAILROAD IN NICARAGUA.

(*From Export, a German commercial paper, of August 4, 1904.*)

Attention has already been called to the fact that the Germans are beaten by others in getting concessions in Nicaragua. There is, however, one concession which is in the hands of the Germans—that for building a railroad from Lake Nicaragua to the Atlantic Ocean.

The line will extend from San Miguelilo in a northeastern direction through the province of Chontales to the river Tule, which has an altitude of 633 feet, thence to the Rio Punta Gorda, or Rama, and along this to Monkey Point, where a harbor will be built. This place has great natural advantages as a harbor. Formerly most of the shipping has gone by Corinto.

The road, which will be about 92 miles in length, will pass through very fertile regions specially suitable for farming and cattle raising.

The Mosquito reservation and the land on both sides of the river San Juan are open for settlement. The President and his colleagues, as well as the American consul, have received tracts of land which will be sold to foreign companies for a good remuneration.

The building of the Panama Canal, which should last ten years, will insure high prices for cattle. The country is also well adapted for growing bananas, caoutchouc, and cocoanuts. There are large forests of mahogany, cedar, and other fine woods. The President has a lively interest in the building of the road.

CIVIL SERVICE OF FRANCE.

(*From United States Consul-General Gowdy, Paris, France.*)

APPLICATIONS AND EXAMINATIONS.

Civil service employees in France are now chosen by examination. Any person who wishes to become a candidate must write to the minister of the department he wishes to enter, inclosing certificates to show (*a*) that he is French by birth or naturalization; (*b*) that he has performed his military service or been exonerated from it, and (*c*) that his parents or guardians possess the necessary resources to enable him to live respectably while he is a "supernumerary" receiving no salary. Diplomas of university degrees (if any) should also be forwarded, and some departments now require a certificate as to moral character and antecedents. It will be seen that foreigners are now, though they were not formerly, debarred from entering. When, in exceptional circumstances, as in foreign countries, they are employed, they are generally required to naturalize themselves at the earliest possible date.

If the documents are satisfactory the minister will give the applicant permission to become a candidate. The examination is both oral and written and is competitive, but the candidates who have taken university degrees enjoy certain privileges. In some departments they are placed at the head of the list; in others a bachelor or a licentiate goes up ten places. Training is considered in some departments—for instance, the office of public works selects a large majority of its officials from the school of roads and bridges of Paris. Physical tests are not required (a medical examination is always made when a man enters the army), but a certificate as to health and strength is required for customs officers, postmen, and others having outdoor work to do.

Examinations are held once a year, or oftener if required. A candidate who fails is allowed to go up a second time—in some departments a third time. A good proportion of the candidates pass the primary examination, which, indeed, is not difficult, but whether all who pass receive appointments it is difficult to say, as the results of the examinations are not published in the official reports or mentioned in the newspapers.

The nature of the examining committee varies in different departments. At the foreign office it consists of six members, three of whom are not connected with the department itself. In the treasury department examinations are held on the same day in every town where candidates present themselves. The oral part of the examination is conducted by two supervisors of taxes and a professor of mathematics of the local university. The papers for the written examination are sent from Paris in sealed envelopes and opened in the presence of the candidates, and the answers to these questions are returned to Paris along with the reports of the examiners, each of whom reports separately the results of the oral examination. The final decision is made by the minister or the chief officials of the department.

Generally speaking, candidates must be not less than 18 or more than 25 years old; but there are several exceptions. The sons of officials, if otherwise capable, and youths who have taken high academic honors may enter before they reach 18 years, and the age limit is extended to 28 in the case of young men who are called on to serve three years in the army. Officers and soldiers retired from the army may also enter the civil service until they are 30. The most notable exception is that of the précis (abstract) writers at the foreign office. To summarize and condense a long report clearly and well requires skill and experience, and a man who possesses this rare gift can find employment up to the age of 45.

APPOINTMENT AS SUPERNUMERARY CLERKS.

When vacancies occur they are filled from the list of passed candidates, who are appointed "supernumerary" clerks. Whether the names are always taken in their proper order or whether political or personal influences are brought to bear it would be impossible to say, as appointments are made by the minister and the list remains in the office. A list of places vacant is, however, published by the Journal Officiel almost every day, and is often quoted in the daily papers.

A "supernumerary" receives no salary and usually remains from eighteen to twenty months in this stage, except at the foreign office. There a "supernumerary" serves three years, at the end of which time he undergoes another examination, and if successful is appointed a salaried clerk.

SALARIES.

When on the regular staff a young clerk receives 1,500 to 1,800 francs ($290 to $347) a year, rising rather rapidly to 4,000 francs ($772), but afterward slower. He may become a head clerk, of whom there are two or three in each "room," with a salary of 8,000 francs ($1,544), and he has a remote chance of being head of the division, with 12,000 francs ($2,316). Appointments are not made for any definite or limited period. Women are not employed in any Government office except the post-office and telephone service, and they are then very badly paid, receiving about three-fourths of a man's salary.

Young men are specially trained for service as consuls and employees at legations. They must pass the examinations, serve at least six months in a consular office with no salary, or at most a nominal sum for expenses, and show an aptitude for foreign languages, especially English and Spanish. No special provisions appear to exist in regard to the appointment of postmasters, collectors of customs, etc., but appointments are made from the most competent minor officials.

OFFICE HOURS AND HOLIDAYS.

Office hours are from 9 a. m. to 5 p. m. There are some eight or ten public holidays in the course of the year. An official is allowed a fortnight vacation without deduction of salary, or a month if he has had no vacation during three preceding years. It is doubtful if this arrangement is strictly carried out in regard to higher-paid officials, who possibly receive a month vacation. If absent beyond that time (up to three months), an official's salary suffers a reduction "which shall not be less than half nor more than two-thirds of his average salary." In case of sickness (duly certified) full pay is allowed for three months, and half or two-thirds for another three months. At the end of six months an official must return to work or may be asked to resign. This does not apply to a man having been injured in the public service or having performed any act of braverv from which he received injuries.

EFFICIENCY RECORD.

Records of employees' habits, industry, efficiency, etc., are kept by one of the chief clerks in the room, who hands them periodically to the chief of the division, who decides as to the clerk's advancement. Very much depends on the good nature of the immediate superior. These reports are confidential, or may be, but the nature of them is shown when the time for promotion arrives. A minister has absolute right to discharge or remove his subordinates. Nominally there are no restrictions on the political activity or religious influence of the employee, but nearly all officials refrain from taking any active part in political campaigns. The same remark holds good with regard to labor unions.

PENSION AFTER THIRTY YEARS' SERVICE.

At the age of 60, or after thirty years' service, a clerk is entitled to retire on a pension. This pension is usually calculated at the rate of one-sixtieth of the salary for each year's service, but must not exceed two-thirds of the salary at the time of retirement. The law fixes the pension at two-thirds in the case of salaries of from 1,000 francs ($193) to 3,200 francs ($617.60), and at one-half for salaries from 3,200 francs ($617.60) to 12,000 francs ($2,316). A retired ambassador receives $2,316, a consul-general $1,158, a first-class consul $965, and a second-class consul $772. The pension fund is supported by a deduction of 5 per cent from all salaries. Retired employees can not reenter the service, as they would be far too old, but they may engage in private enterprises or business. The present law regulating pensions has been in force for more than fifty years, and appears to work smoothly.

OTHER FEATURES.

No other plans than those now in operation have been tried since the introduction of the merit system, but it would be impossible to give a history of this system, as the details do not penetrate beyond the walls of the department.

The system of competitive examination suits the French character, and it is almost certain that the public would now resent any attempt to revert to the old method of "simple and unchecked nomination." In fact, there is every reason to believe that the public would view with pleasure the appointment of a proper board of examiners who would test all candidates and forward a list of the most suitable to the different departments. This would remove any suspicion of favoritism, which the French are somewhat prone to entertain.

As regards educational establishments there are special schools for certain technical branches—engineering, forestry, mines, bridges, and roads—and at all the colleges and high commercial schools there are special courses for youths training for the civil service, but there seems to be no school exclusively concerned in preparing candidates. It may also be mentioned that the "crammer" or special tutor whose sole work is preparing candidates for Government appointments is wholly or almost unknown in France.

JOHN K. GOWDY, *Consul-General.*

PARIS, FRANCE, *August 18, 1904.*

ITALY'S FOREIGN TRADE.

(*From Nachrichten für Handel und Industrie, a German official commercial paper, of August 16, 1904.*)

The value of the imports into Italy, including precious metals, during the first six months of 1903 was $186,520,684, against $181,302,324 for the same period of 1904. Exports for the first six months of 1903 amounted to $144,434,662, against $142,240,650 for the same period of 1904.

Value of imports of leading articles into Italy, first six months of 1903 and 1904.

Articles.	1903	1904
Olive oil	$1,717,314	$1,085,239
Petroleum	1,135,805	1,149,122
Raw coffee	1,458,115	1,424,726
Tobacco	883,940	749,033
Potash and caustic soda	485,009	324,626
Alkaloid	477,482	418,810
Carbonate of soda	302,624	332,539
Nitrate of soda	1,572,371	1,156,263
Sulphate of soda	180,841	193,579
Sulphate of copper	2,189,199	3,332,338
Paraffin	567,034	440,040
Indigo	395,843	254,374
Tar colors	1,024,637	1,161,474
Raw jute	1,148,929	1,627,955
Linen yarn	862,710	905,749
Raw cotton	22,448,023	23,083,572
Wool	8,821,837	8,812,959
Silk cocoons	1,913,016	2,095,980
Silk	13,476,418	10,449,792
Wood	4,869,197	5,422,528
Cellulose	684,378	856,341
Engravings, etc	547,156	679,360
Raw hides	2,681,542	3,778,747
Scrap iron, etc	1,308,733	1,897,576
Steel	985,072	1,333,823
Copper and brass	776,632	1,563,493
Agricultural machines	689,203	782,422
Textile machines	1,653,817	1,955,669
Precious stones	2,321,404	2,502,631
Coal and coke	12,839,132	13,863,769
Wheat	22,693,133	12,969,986
Corn and oats	6,171,175	4,092,758
Horses	3,207,560	3,490,596
Fish	1,321,085	1,160,316
Cheese	519,556	559,314
Animal fat	754,051	1,436,692

Value of exports of leading articles from Italy, first six months of 1903 and 1904.

Articles.	1903	1904
Wine	$5,385,665	$2,929,933
Olive oil	4,504,427	5,875,499
Pomegranate oil	845,700	1,207,794
Tartar	1,733,526	1,702,458
Raw hemp	3,178,710	5,194,788
Cotton	3,046,505	4,075,368
Silk	51,409,603	43,994,543
Straw	2,298,244	2,189,199
Raw hides	1,550,755	1,559,826
Zinc ore	1,110,329	1,379,564
Marble	835,883	849,779
Sulphur	5,065,478	5,291,285
Rice	999,933	1,379,757
Pomegranates	1,417,585	1,620,428
Lemons	2,079,961	2,382,585
Almonds	1,466,800	860,973
Vegetables	1,625,253	1,634,710
Oxen	1,293,486	682,834
Butter	1,515,436	1,279,783
Cheese	2,121,456	1,831,956
Eggs	4,978,435	4,898,919
Coal	2,137,405	2,382,971

FOREIGN TRADE OF AUSTRIA-HUNGARY.

(*From Nachrichten für Handel und Industrie, August 6, 1904.*)

The following tables are compiled from official figures published by the Austrian minister of commerce:

Values of exports and imports of Austria-Hungary, first six months of 1903 and 1904.

Materials.	Imports.		Exports.	
	1903	1904	1903	1904
Raw material	$116,729,466	$127,047,144	$87,198,853	$85,913,051
Partly manufactured material	26,060,328	26,014,044	29,879,446	30,936,794
Manufactures	48,581,554	52,051,027	83,387,731	90.656,131
	191,371,348	205,112,215	200,566,030	207,504,976
Silver and gold	7,752,976	9,061,717	7,165,900	3,634,715
Total	199,124,324	214,173,932	207,731,930	211,139,691

Values of imports of leading articles into Austria-Hungary, first six months of 1903 and 1904.

Articles.	1903	1904
Colonial wares	$4,466,000	$5,724,600
Tobacco	5,541,900	4,912,600
Cereals	6,780,200	6,699,000
Vegetables	7,693,700	8,343,300
Animal products	12,139,400	13,763,400
Wood	10,556,000	11,124,400
Cotton	29,435,000	34,814,500
Flax, hemp, etc	7,531,300	6,638,100
Wool	19,122,600	20,117,300
Silk and silk goods	8,465,100	8,789,900
Leather and leather goods	5,399,800	5,420,100
Metals	6,739,600	7,632,800
Machines	4,364,500	4,851,700
Precious stones	7,754,600	9,053,900
Works of art	5,135,900	6,643,400

Values of exports of leading articles from Austria-Hungary, first six months of 1903 and 1904.

Articles.	1903	1904
Sugar	$16,341,500	$15,570,100
Grain	15,407,700	13,763,400
Vegetables	5,704,300	5,744,900
Cattle	16,260,300	17,255,000
Animal products	20,523,300	21,416,500
Wood and coal	33,454,400	33,129,600
Cotton and cotton goods	3,308,900	4,466,000
Flax, hemp, etc	5,907,300	5,947,900
Wool and woolen goods	7,186,200	7,612,500
Clothing	5,075,000	6,029,000
Paper and paper goods	4,384,800	4,729,900
Leather and leather goods	6,252,400	5,643,400
Wooden ware	5,054,700	5,135,900
Glass and glassware	5,095,300	5,684,000
Iron and ironware	4,750,200	7,023,800
Watches, etc	6,699,000	6,536,600

TRADE AND ENGINEERING OPPORTUNITIES.

(*From United States Consul Warner, Leipzig, Germany.*)

Railroad tunnel in Belgium.—The royal Belgian ministry of railroads will in the near future award a contract for the digging of a tunnel at the Liege-Guillemine station. It is estimated that this work will cost $58,272.

Iron bridge in Caracas.—The Government of the Republic of Venezuela has given its consent to the building of an iron bridge across the Guaira River, in the city of Caracas. The building operations have been intrusted to Dr. R. Nuñes, of Caracas, the engineer, who has prepared the plans and specifications.

Public works in Italy.—It has recently been made public that the Italian Government has appropriated the sum of $20,776,450, to be expended by the ministry of public works as follows: $13,973,200 for railroads; $77,200 for assisting in the establishment and maintenance of automobile connections in those districts where there are no railroads; $1,351,000 for improving and enlarging waterworks; $579,000 for constructing dams and building embankments to prevent snow slides, and $1,351,000 for work upon highways and bridges.

Theater for Caracas.—The Government of the Republic of Venezuela has approved the plan to build a national theater at Caracas, Venezuela. The originator of the project, Dr. Alexandro Chataing, has been selected to look after the building operations, and when they are completed to assume the management of the theater.

Furniture and hardware for Belgium.—In the near future the ministry of the Belgian State railroads at Brussels will invite tenders upon a considerable quantity of furniture and hardware for the use of the said State railroads. Detailed information may be obtained from the said ministry.

Electric supplies for Italy.—The Italian ministry of posts and telegraphs has received authority from the Parliament to establish telephonic connections between Brescia and Bergamo; Lecco and Bergamo; Cremona and Piacenza; Genoa, Pisa, and Leghorn; Naples, Foggia, and Barletta; Naples, Reggio, Calabria, and Messina.

The authorities of the province of Rome propose to build an electric railroad between the city of Rome and Civita Castellana.

The city council of Venice has decided to purchase a number of electric launches for use on the canals of that city.

The general inspector of the Adriatic Railroad, whose office is in Rome, has received permission to purchase 150 electric accumulating batteries.

The Adriatic Railroad Company is planning to build an electric road from Chiasso to Como and Chiavenna.

BRAINARD H. WARNER, JR., *Consul.*

LEIPZIG, GERMANY, *July 30, 1904.*

SCHOOL FOR MACHINE FITTERS IN RUSSIA.

(From Nachrichten für Handel und Industrie of August 11, 1904.)

According to a report of the German consul at Kief there appeared a short time ago in the Stefnoi Krai, published in Omsk, a communication to the effect that the American firm of D. M. Osborne & Co., which sells annually more than $510,000 worth of agricultural implements at that place, has decided to erect a technical school in which persons will be trained to use agricultural implements and to instruct farmers in their use. The company found that the lack of knowledge of agricultural machines was the greatest drawback to the development of its trade in that region.

This idea is also applicable to other parts of Russia. The governments of Ekaterinoslaf and the region of the Don should erect such a school. The agricultural implements purchased there are for the most part of Russian manufacture and are no cheaper and no better than foreign-made machines. The foreign machines are discriminated against solely because the Russians are not familiar with them. In the other governments there is not this need.

Agricultural and mechanical students in the Polytechnical Institute at Kief and the Technological Institute in Kharkof are taught the manufacture and use of agricultural machines, and the provinces of Kief, Volhynia, Kharkof, and Poltava also have a number of agricultural schools in which pupils are given instruction regarding the use and mounting of agricultural machines. The agricultural interests of Russia are especially desirous of giving instruction along these lines.

In the consular district of Kief agriculturists are seldom embarrassed by lack of technical knowledge, which is to be gotten when needed from near-by sugar factories.

DROUGHT AND GRAIN HARVESTS IN GERMANY.

(From United States Consul-General Mason, Berlin, Germany.)

On the 19th of June it was reported from this consulate that the lack of normal rainfall throughout Germany had become a widespread calamity, not only to agriculture, but to many industries which were more or less dependent upon inland water transportation for their supplies of materials.

The drought continued practically unbroken throughout June and July until near the middle of August, when local rains, more or less copious, fell in the northern and central parts of the Empire, which, although giving no relief to the almost wholly suspended navigation of canals and rivers, have freshened pastures and meadows somewhat and given some hope to the growers of sugar beets and late potatoes.

Since August 15 a careful inquiry as to the grain crops and the general agricultural situation has been made by the central station for Prussian agriculture. Its report, which has just been synopsized by the daily newspapers, makes gloomy reading for German economists. Beginning with the most favorable and encouraging feature, the crop of cereals, which were mainly ripe and harvested in dry, good condition before the worst stage of the drought had been reached, the comparison between the area planted and the total crop harvested in Prussia in 1903 and 1904 (partially estimated) shows the following contrasts:

Grain crop of Prussia, 1903 and 1904.

Cereal.	Area in cultivation.		Total crop harvested.	
	1903	1904	1903	1904
	Acres.	*Acres.*	*Metric tons.*	*Metric tons.*
Winter wheat	2,150,591	2,569,582	1,759,952	2,200,965
Spring wheat	425,574	236,407	396,751	176,991
Winter rye	11,124,241	11,341,214	7,236,328	7,113,945
Spring rye	186,763	149,789	77,337	55,042
Barley	2,266,203	2,150,459	1,883,557	1,444,630
Oats	6,956,857	6,755,811	5,172,140	4,401,724

There is thus a falling off from the yield of last year in all of the six leading cereals except winter wheat and a net deficit of 1,132,768 tons in the actual amount of these grains harvested during the present year, all of which deficit, or as much of it as possible, will have to be met by increased importations.

Still more serious, however, are the effects of the drought on pastures, meadows, and root crops of all kinds, both for forage and for human food. The second cutting of hay, an important item in the year's account, is, except in irrigated valleys, practically lost; the cattle have been turned out to graze on the brown, stricken meadows, and in some places they are already being fed with the scanty hay that was cut at the end of June. So acute is this deficit in forage that the "Rieselfelder," or suburban fields belonging to the municipality and fertilized with the liquid sewage of Berlin, have been put under requisition to supply daily fresh-cut grass for the cattle of a large surrounding section. These fields are about 7,000 acres in extent, and furnish daily about 500 tons of fresh grass, which are distributed by rail over a large area. Austria, whence Germany imports yearly 135,000 tons of cured clover, has prohibited all such export this year, so that an important source of forage supply for eastern Germany is cut off.

All this has reacted disastrously on the dairying industry. Milk, cheese, and butter are reduced in quantity and advanced in price. Many farmers will be obliged before winter sets in to reduce by one-half or one-third the number of their cattle, which will be sacrificed for what they will bring, with the result of a subsequent deficit of dairy and breeding stock which it will require years to make good.

The standard fruits, apples, pears, plums, and peaches, which promised in early summer a full average yield, have to a serious extent been ripened prematurely by the prolonged and intense dry heat, and have shriveled and fallen off in such quantities that the autumn fruit crop is gravely compromised. Potatoes, which cost at this season in ordinary years about $1 a centner (110 pounds), now cost $1.90, so that the price of one staple food stuff of the working classes is already practically doubled.

Add to all this the reduction or total suspension of building operations through the lack of water transport for stone, brick, lime, sand, and lumber, the more or less complete paralysis of milling and other industries, the wholesale stoppage of rafting operations for logs, firewood, and sawed lumber, the failure of summer transportation by canal and river for next winter's supply of coal, coke, and briquettes for towns and cities, and there is created a general situation which can not fail—has indeed already begun—to affect seriously the condition of the poorer classes, the working people in both town and country, whose incomes, even in normal times, are close to the amounts actually necessaries to supply the needs of daily life.

With a steadily increasing population, the food supply of the Fatherland for the coming autumn and winter has been heavily reduced. Russia, Austria, Germany, Switzerland, and France are all in a similar situation, and have little or no surplus for export. Increased importations, if they are to be obtained at all, will have to come from distant sources—Argentina, Canada, Australasia, and the United States. There will be an increased demand not only for corn, wheat, and rye from the United States, but for fresh and preserved fruits, dried and salted fish, and such meats as the present inspection law of Germany permits to be imported.

The larger fact, not less tangible but more difficult to measure in its effects, will be that scarcer and dearer food throughout the Empire will increase the cost of labor and thereby restrict the ability of manufacturers to produce cheaply the goods which are to supply domestic demands and maintain their supremacy in foreign markets.

FRANK H. MASON, *Consul-General.*

BERLIN, GERMANY, *August 29, 1904.*

DROUGHT IN EUROPE.

(From United States Consul-General Wright, Munich, Germany.)

In consequence of the recent drought in western Austria, Bavaria, and eastern Switzerland, the Government of Austria-Hungary has prohibited the export of fodder for cattle in the shape of clover, hay, oats, or corn, as the supplies in that country are already insufficient, in view of the prospective failure of the second semiannual harvest.

This action on the part of the Austrian Government has caused dismay in agricultural circles in southeastern Germany and eastern Switzerland, where the cattle breeders are accustomed to draw upon Austria for their fodder supplies; hence the outlook for the coming winter is very bad, unless supplies can be obtained elsewhere.

This is an occasion of which American farmers might well avail themselves to introduce American fodder supplies into the district mentioned, and to expedite matters, I give herewith the names and addresses of two of the largest firms in this line in Munich: Geist & Breuninger, Bayerstrasse 8, and Alois Deiglmayr, Sendlingerstrasse 10-11.

Considerable discussion has been raised in the South German press by this action on the part of the Austrian Government, as by the German-Austrian commercial treaty of 1891 both contracting parties agree not to prohibit the import or export of any goods, except such as may be government monopolies, unless forced to do so by extraordinary circumstances. I mention this fact simply to show that the scarcity has become a serious matter for the agricultural population in the district affected.

WILLIAM F. WRIGHT, *Consul-General.*

MUNICH, GERMANY, *August 24, 1904.*

GERMANY'S FOREIGN TRADE IN SEWING MACHINES.

(From United States Consul Warner, Leipzig, Germany.)

Sewing machines imported into and exported from Germany are divided into three groups, namely, (1) machines or parts thereof without stands, (2) machines with cast-iron stands, (3) machines with wrought-iron stands. An import duty of $5.95 on 220 pounds must be paid on the first group; of 71 cents, with 5 per cent allowed for tare, on the second; and of $1.19, with 10 per cent allowed for tare, on the third.

The following table shows the quantities, in metric tons, of sewing machines and parts thereof which have been imported into and exported from Germany during the first six months of 1902, 1903, and 1904, respectively:

German imports of sewing machines and parts thereof, first six months of 1902, 1903, and 1904.

Class and whence imported.	1902	1903	1094
	Metric tons.	*Metric tons.*	*Metric tons.*
Group 1:			
United Kingdom	89.7	160.6	193.5
United States	598.0	700.8	996.8
Other countries	15.1	11.9	19.0
Total	702.8	873.3	1,209.3
Group 2:			
United Kingdom	1,391.3	1,953.7	2,129.6
United States	237.1	354.6	518.3
Other countries	16.9	45.8	25.3
Total	1,645.3	2,354.1	2,673.2
Group 3:			
United Kingdom	8.1	9.7	11.5
United States	8.8	12.1	14.0
Other countries	.1	.7	.6
Total	17.0	22.5	26.1
Grand total	2,365.1	3,249.9	3,908.6

German exports of sewing machines and parts thereof, first six months of 1902, 1903, and 1904.

Class and whither exported.	1902	1903	1904
	Metric tons.	*Metric tons.*	*Metric tons.*
Group 1:			
Russia	743.5	922.3	882.7
United Kingdom	261.4	396.4	355.4
Italy	217.0	202.2	320.6
France	150.9	246.5	295.8
Austria-Hungary	208.6	208.5	241.8
Netherlands	174.8	168.3	209.8
Brazil	122.1	159.9	138.9
Chile	34.7	85.2	97.9
Denmark	87.5	106.3	97.5
Belgium	71.8	102.5	78.0
Spain	24.0	61.9	67.2
Switzerland	50.2	78.0	62.6
Dutch East Indies	49.3	45.1	63.1
Sweden	48.9	17.9	49.8
Norway	45.1	55.3	49.6
British India	21.3	16.6	35.9
Mexico	31.6	22.0	34.4
Australia	....	....	27.8
South Africa	47.0	101.6	27.5
Philippine Islands	83.8	69.7	23.0
Argentine Republic	15.9	18.5	19.1
Free zone of Hamburg	20.0	34.5	11.8
Japan	20.9	21.3	10.0
Other countries	232.5	295.1	291.7
Total	2,762.8	3,435.6	3,481.9
Group 2:			
France	936.8	898.7	989.6
Russia	494.4	445.7	449.4
Belgium	450.1	416.8	391.6
United Kingdom	509.2	387.7	315.3
Switzerland	209.3	310.5	262.1
Australia	....	....	235.5
Austria-Hungary	176.1	191.7	190.6
Netherlands	137.8	158.6	178.2
Roumania	76.0	66.8	171.1
Sweden	151.2	119.1	127.4
Argentine Republic	42.9	47.8	110.7
Italy	24.9	59.3	78.2
Finland	51.6	45.4	69.0
Denmark	44.1	60.9	59.5
Chile	27.0	48.1	46.2
Other countries	506.8	532.5	442.9
Total	3,838.2	3,789.6	4,117.3
Grand total exports	6,601.0	7,225.2	7,599.2

There were no exports of class 3.

The total values of the sewing machines and parts thereof which were imported into Germany during the first six months of 1902, 1903, and 1904 were $745,892, $1,036,450, and $1,417,528, respectively. The exports amounted to $2,550,170 during the first half of 1902, $3,040,450 during the first six months of 1903, and $3,163,020 during the same period in 1904.

During the first six months of 1902 and 1903 the values of the sewing machines exported from the United States to all countries were $2,173,287 and $2,672,345, respectively.

If one compares the figures given in the foregoing table with those regarding the exports of merchandise from the United States, in the Monthly Summary of Finance and Commerce, it will be seen at a glance that the sewing machine manufacturers of Germany and the United States are not competing with each other in most foreign countries. American sewing machine manufacturers can not but find a larger market for their machines in Europe if they will look for it.

Special attention is called to Russia, France, Belgium, Italy, Switzerland, Austria-Hungary, Roumania, Norway and Sweden, and Germany as countries where quantities of sewing machines can be sold.

Brainard H. Warner, Jr., *Consul.*

Leipzig, Germany, *August 3, 1904.*

REVISION OF SPANISH TARIFF.

(*From Export, a German commercial paper, of July 28, 1904.*)

Spain is preparing a revised tariff in which increases are expected. The basis on which the revision is being made was published a short time ago.

Raw materials competing with Spanish natural products are dutiable at 5 to 15 per cent ad valorem; other raw materials, except food stuffs, are dutiable at 10 per cent. Industrial products are to pay 20 to 50 per cent ad valorem, according to the duty levied on the raw materials in the product, the state of finished product, etc. Food stuffs are classified with industrial products with the exception, however, of certain goods which, with certain finished products, pay a still higher duty.

Minimum and maximum tariffs will be prepared, as formerly. The Government is empowered to increase the duties on wares coming from countries where Spanish goods or ships are discriminated against or on wares on which export duties are levied. Natural products from Spanish colonies are to be entered free. Commercial treaties are to be limited to periods of five years. All this is, however, preliminary and the action of the Cortes must be awaited.

During the last four years Spanish foreign trade was as follows:

Spanish foreign trade, 1900–1903.

	1900	1901	1902	1903
Imports	$181,198,000	$173,833,170	$168,772,710	$172,746,580
Exports	149,212,160	141,953,430	154,164,540	164,897,270
Excess of imports	31,985,840	31,879,740	14,608,170	7,849,310

FORMOSA ISSUES GOLD CURRENCY NOTES.

(*From United States Vice-Consul Lambert, Tamsui, Formosa.*)

The Formosan government has passed laws, to go into effect to-morrow, July 1, 1904, which have for their object the improvement of the island's currency, and permit the Bank of Taiwan, which is practically a government institution, to issue, under its own name, bank notes of over 1 yen (49.8 cents) in value, to be redeemable in gold. Hitherto the bank has been permitted to issue only notes redeemable in silver.

It is the intention of the bank to gradually substitute these gold currency notes for the present silver ones, and it is believed that the action will have little effect on the local money market. It is probable that the local rate of exchange between silver and gold will remain somewhat lower than outside rates, as the bank will be anxious to redeem its silver paper at as cheap a rate as possible.

The government has been quietly working to bring about this enactment for some years. The confidence of the native Chinese in the bank's silver certificates has been thoroughly established, so that there will be little difficulty in persuading them to accept the new issue.

It will be a long time before silver-dollar coins will be entirely eradicated from the island's currency, on account of the inrooted desire on the part of the Chinamen to handle solid cash in preference to notes. A large quantity of silver money is yearly shipped to the China coast after each tea season, and with the present 5 per cent duty on all defaced silver coins imported into Formosa, the tendency will be for less and less to return. It will also take several years for the Taiwan bank to call in its silver notes, as these have a large circulation all over the southern and middle China coast.

A. C. LAMBERT, *Vice-Consul.*

TAMSUI, FORMOSA, *June 30, 1904.*

FOREIGN TRADE OF BRITISH INDIA IN 1903-1904.

(From Nachrichten für Handel und Industrie, June 2, 1904.)

The following table shows imports of British India for the fiscal years ending March 31, 1903 and 1904, and exports for the fiscal years ending March 31, 1902 and 1903:

Imports and exports of British India.

Articles.	Imports.		Exports.	
	1903	1904	1902	1903
Animals	$1,441,476	$1,737,612	$667,764	$721,872
Food stuffs	34,040,412	37,920,636	116,312,112	145,508,076
Metal	46,693,908	53,004,456	974,592	1,117,152
Chemicals	7,927,308	8,911,944	34,714,980	42,143,328
Oil	12,035,952	11,461,500	2,778,948	3,340,440
Raw material	11,248,632	12,601,980	168,755,076	203,058,900
Manufactured and partly manufactured goods	141,885,108	149,140,764	83,647,080	89,565,264
Total	255,272,796	274,778,892	407,850,552	485,455,032
Government supplies	22,781,412	130,018,608	9,511,344	1,806,624
Gold and silver	82,217,312	25,171,560	31,290,624	52,722,252
Reexported			1,883,088	10,774,620
Grand total	360,271,520	429,969,060	450,535,608	550,758,528

Among the leading articles of import were horses, ale, wine, dates, salt, betel nuts, sugar, agricultural implements, enameled ironware, sewing machines, copper and copper ware, plate iron, bar iron, piping, iron plates, bar steel, steel plates, railroad cars, locomotives and tenders, iron rails, tobacco, aniline dyes, petroleum, coal, pearls, precious stones, raw silk, wood, cotton, silk goods, woolen goods, millinery, glassware, paper.

Among the exports were coffee, rice, wheat, flour, pepper, tea, saltpeter, opium, indigo, coal and coke, cotton, oil cake, hemp, raw hides, silk, flax, seed, teak wood, jute bags, cocoanuts, shellac, sesame, cotton seed, animal bones, castor-oil seed, peanuts, etc.

MEAT REFRIGERATION IN ARGENTINA.

(*From Boletin Mensual, official statistical publication of the Province of Buenos Ayres, March, 1904.*)

During the past year two new meat companies have commenced operations—the Compania Argentina de Carnes Congeladas, in Avellaneda, with a capital of $845,340, and the Compania de Sansinena de Carnes Congeladas, in Bahia Blanca, with a capital of $860,066. These refrigerating companies and the three already established employ 3,160 operatives and have a yearly capacity of 500,000 cattle and 7,000,000 sheep.

The following tables show the number of animals slaughtered in the refrigerating plants for a period of years, and the quantity and value of the products obtained in 1903:

Animals slaughtered in refrigerating plants in Argentina, 1897–1903.

Year.	Sheep.	Cattle.
1897	2,232,526	13,752
1898	2,597,795	17,904
1899	2,569,185	31,690
1900	2,564,678	68,982
1901	2,709,965	133,060
1902	3,501,319	212,202
1903	3,899,990	272,903

Products obtained from animals slaughtered in 1903.

Products.	Quantity.	Value.
	Pounds.	
Preserved meat	501,992	$115,701
Frozen meat	376,458,874	41,812,364
Fat	1,712,099	371,027
Hides (cattle)	18,209,085	3,904,437
Hides (sheep)	28,944,518	6,415,909
Tallow	48,454,877	5,817,545
Bones	3,460,600	26,580
Horns	158,510	18,434
Other products	5,447,136	1,293,818
Total		59,775,815

The five establishments own buildings, machinery, etc., worth $5,673,228, and have an actual current capital of more than $53,075,000.

STOCK FARMING IN AUSTRALASIA AND THE PROVINCE OF BUENOS AIRES.

The following figures concerning the number of cattle and sheep in Australasia and the Province of Buenos Aires are given by Boletin Mensual, an official publication of the Province, of March, 1904, the former on the authority of "A statistical account of Australia and New Zealand for 1902–1903."

Number of cattle in Australasia.

Colony.	1881	1891	1901	1902
New South Wales	2,597,348	2,046,454	2,047,454	1,741,226
Victoria	1,286,677	1,812,104	1,602,384	1,602,384
Queensland	3,618,513	6,192,759	3,772,707	2,543,471
South Australia	314,918	676,933	479,863	519,163
East Australia	63,009	133,690	394,580	437,568
Tasmania	130,526	167,666	168,661	178,3[illegible]
New Zealand	698,637	831,831	1,361,784	1,460,663
Australasia	8,709,628	11,861,437	9,827,433	8,482,880

Number of cattle in the Province of Buenos Aires.

Year.	Number.	Year.	Number.
1881	4,439,953	1901	9,588,000
1888	8,343,266	1902	9,805,600
1895	7,745,896	1903	10,165,000
1900	9,500,000	1904	10,277,313

Number of sheep in Australasia.

Colony.	1881	1891	1901	1902
New South Wales	36,591,946	61,831,416	41,857,099	26,649,424
Victoria	10,267,265	12,928,148	10,841,790	10,841,790
Queensland	8,292,883	20,289,633	10,080,971	7,213,985
South Australia	6,810,856	7,745,541	5,060,450	4,922,662
East Australia	1,267,912	1,962,212	2,542,844	2,697,897
Tasmania	1,847,479	1,662,801	1,792,481	1,679,518
New Zealand	12,985,085	18,128,186	20,233,099	20,342,727
Australasia	78,063,426	124,547,937	92,408,734	74,348,003

Number of sheep in the Province of Buenos Aires.

Year.	Number.	Year.	Number.
1881	57,838,073	1901	60,090,000
1888	51,238,782	1902	65,783,000
1895	52,630,451	1903	69,230,000
1900	64,000,000	1904	75,836,000

APPLE GROWING IN SOUTH AUSTRALIA.

(*From Export, a German commercial paper, of July 7, 1904.*)

According to an official estimate there were exported from South Australia during the current season 90,000 boxes of apples. This is about equal to the quantities exported in 1900, 1902, and 1903, and exceeds the largest export of other years by about 34,000 boxes. In five years the South Australia orchardists have shipped 225,000 boxes of apples, and it is possible that in a few years this will be surpassed.

It is estimated by the chief inspector of orchards in South Australia that there are in the colony 200,000 or 300,000 acres of land suitable for apple raising. The best region for apples is between Clarendon and Gumeracha. The region of Barossa is also very suitable. Good apple orchards are also found at Clare and Wirrabirra. On account of poor methods in planting and handling the orchards, yields are not as good as they should be. According to the report of the chief inspector there are in Tasmania about the same number of acres planted in apples as in Australia, yet Tasmania's shipments were 558,000 boxes. About nine or ten years ago a large number of trees in South Australia were replaced by new ones, which have not reached full bearing, and this accounts partly for the difference.

The chief inspector considers apple growing in South Australia especially profitable. A difficulty in the way of increasing the number of orchards is the length of time required for the trees to get into full bearing, which is seven or eight years. Freights have been cheapened and better markets abroad should result.

SECOND ELECTRIC RAILROAD IN PERU.

(*From United States Consul Gottschalk, Callao, Peru.*)

The electric railroad between Lima and Callao, the second enterprise of its kind in Peru, is in operation. Like its predecessor, that between Lima, Chorillos, and other near-by seaside resorts, the Lima-Callao road is equipped with American power machinery and handsome American cars, both open and closed. The roadbed and track were laid by an American firm.

The new road, which is run by the overhead trolley system, covers the 8.6 miles between Lima and Callao in a little over twenty minutes. It runs cars every fifteen minutes and has lowered by one-half the fares formerly existing on the steam railroad. The new railroad has thus far been unable to obtain permission to run through the principal streets of Lima, and therefore stops at Union street (the chief commercial artery), where it connects with the city horse cars, but it is believed that the obstacles to electric traction through the streets of Lima will soon be removed. The road runs through the main streets of Callao, and has besides a prolongation of some mile and a half to La Punta, a seaside resort a short distance farther down the coast.

The new road is remarkably popular and is so much traveled as to make the acquisition of additional rolling stock a necessity. It fills a long-felt want of frequent and cheap communication between the capital city and its port, which, although a separate municipality, is and has for many years been a commercial suburb of Lima.

ALFRED L. M. GOTTSCHALK, *Consul.*

CALLAO, PERU, *August 4, 1904.*

CONSULAR SERVICE OF SWEDEN AND NORWAY.[a]

(*From United States Commercial Agent Harris, Eibenstock, Germany.*)

PRESENT DEMANDS ON CONSULS.

Competition between the different nations of the world for foreign trade is causing merchants and manufacturers to make increasing demands upon their consular officers for trustworthy information concerning nearly every line of commercial and industrial activity. In this connection many nations have taken steps to increase the efficiency and permanency of this branch of their public service in order to make it especially effective as a means of securing foreign trade. A report on foreign consular services may prove attractive at this time to those who have a deep interest in the welfare of our own consular service.

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[a] This report is a review of the "Royal ordinance concerning the consular service of Sweden and Norway."

CONTROL OF CONSULAR AFFAIRS OF SWEDEN AND NORWAY.

The control of consular affairs in Sweden and Norway is vested in the minister for foreign affairs in all that regards the United Kingdoms in common. He brings to the notice of the King all matters relating to the consular service, issues general instructions, and superintends the administration of the common consular funds. Consular affairs relating particularly to Sweden are managed by the board of trade, and those relating especially to Norway by the Norwegian home department. The two last-mentioned bodies cooperate constantly with the minister for foreign affairs in promoting the efficiency of the consular service.

PERSONNEL OF THE SERVICE.

The consular service of Sweden and Norway consists either of paid officers sent out from their country or selected from among merchants or of other suitable persons resident in the country to which they are accredited, whose compensation usually consists of fees only. Consuls and vice-consuls are the only principal consular officers known to the service. Consulates are usually supplied with secretaries, clerks, accountants, etc., paid from the public exchequer. All the paid or permanent consular officers are appointed and discharged by the King, while the minister of foreign affairs performs like duties in regard to merchant consuls or other unpaid officials who hold office by virtue of peculiar circumstances. The latter, as a rule, are subjects of some foreign country, while the first mentioned are in every case citizens of either Sweden or Norway.

FILLING OF VACANCIES.

When a vacancy occurs in a consulate with which no diplomatic functions are combined, it is the duty of the minister of foreign affairs to advertise the fact in the papers of Sweden and Norway. As a rule, vacancies in consulates of lesser importance are not advertised beforehand, but are filled at Government discretion. The advertisement of vacancies shall contain information as to the district under the administration of the consul, the emoluments attached to the office, and rules, regulations, etc., to be observed by applicants. Candidates for such vacancies send in their applications in duplicate to the minister of foreign affairs within the time fixed by him in every particular case. Should no suitable candidate be obtained as a result of the first advertisement the matter then rests with the King to determine how the vacancy is to be filled.

CONSULAR REPORTS.

It is the duty of consular officers to give careful attention to the trade and navigation interests of Sweden and Norway within their respective districts, and to endeavor to collect early and complete information of all circumstances which may be supposed to materially affect the commerce of the two countries. Such general information should be supplemented from time to time by specific reports from consuls setting forth their own observations and experience concerning commercial conditions in their districts.

RELATIONS OF CONSUL TO LOCAL AUTHORITIES.

In the performance of his official duties a consul will often be brought in contact with the local authorities, and a satisfactory settlement of many questions will depend upon the assistance which he receives from them. He should endeavor, therefore, to foster friendly relations with every local officer with whom he has to deal. Personal visits on arrival and other civilities may be mentioned in this connection. If the consul is obliged to make any claims, his language should always be moderate and conciliatory. Without giving up any of the rights of his official position, he should always carefully avoid giving occasion for complications and misunderstandings by undue and exaggerated demands. If the consul can not obtain from the local authorities what he considers to be just treatment, he should apply to the legation of Sweden and Norway in the country in which he is stationed, or to the minister of foreign affairs, according to circumstances. In any case, if the subject in hand is one of considerable importance, it is advisable that the consul should submit it to the proper legation before making any formal claim.

Consuls should always abstain from participation in political demonstrations, and they should avoid any expression of political opinions which may compromise their official position. Friendly intercourse should also be established with the consuls of other powers resident in the same place, and official and social relations with them should be carried on according to local usages. In dealing with subjects of general interest it sometimes happens that protests, in order to make them more effective, are made by several consuls jointly. In such cases consuls should proceed carefully, even cautiously.

CORRESPONDENCE WITH PRIVATE PERSONS.

It is the duty of consular officers to reply to private business letters whenever practicable. The information sought ought in every case to be readily given, and should be based either on the personal experience of the consul or on the opinions of reliable business men in the community. On the other hand, no consular officer is obliged, by virtue of his office, to promote any private business enterprise or to act as a middleman between merchants of Sweden and Norway and firms of the place where he is stationed. In no case is a consul permitted to undertake private lawsuits or to collect debts. If the consul does not consider himself able to grant a request made of him, he should immediately inform the applicant of his inability to comply therewith, giving at the same time, if possible, names of honorable parties resident in the place with whom business connections may be established, or who might be intrusted with the matter in hand. If foreign subjects should address the consul with a request for information regarding matters in Sweden and Norway which the consul does not consider himself entitled to give, he should courteously refer the applicants to their own legation or consuls accredited to the United Kingdoms.

THE CONSUL AS NOTARY PUBLIC.

A consul has the power of a notary public. He is authorized to verify such papers as contracts of all kinds, deeds of sale, bonds, wills, acknowledgments, etc. A notary public is often employed not only to take evidence, but also to exercise supervision and control in certain cases as, for instance, at the celebration of marriages. A notary public is considered legally competent to act as a translator and interpreter.

With regard to the making of wills, the Swedish code provides that it can be done either orally or in writing if performed in the presence of two witnesses who are able to certify that the testator is of sound mind and in possession of his free will. The witnesses must be personally acquainted with the testator and must be present at the execution of the will. If the witnesses can not be obtained, and it should be proved that the testator was not able to procure any before his death, the will is valid if the testator has written and signed it with his own hand.

The Norwegian law of inheritance provides that wills, as a rule, shall be drawn up in writing and be signed by the testator's own hand and acknowledged by him before a notary public in the presence of competent witnesses. If a testator residing in a foreign country wishes to draw up a will according to the Norwegian law he may do so in the presence of any consul of the United Kingdoms who is authorized to perform the functions of an ordinary notary public. Every notarial act, no matter of what nature, must be performed in the presence of at least one witness, who hears the document read, and after it has been acknowledged and signed by the proper persons, signs the record, together with the consul. Extracts from records are certified by the consul in the usual manner.

CERTIFICATE OF EXPORTED AND IMPORTED MERCHANDISE.

The Swedish customs tariff provides that when merchandise manufactured from foreign raw materials is exported from the country, restitution of import duty may be procured under certain conditions. These conditions are, among others, that the exportation of the cargo to a foreign port and its discharge there shall be proved by certificates of the proper official authorities at the place of unloading, such certificates being legalized in due form by the Swedish or Norwegian consul, if such officer be stationed at that port. With regard to restitution of the excise on brandy when exported to foreign countries, the law provides that the delivery of the goods at a foreign port shall be certified by an attest from the public authorities under whose supervision the unloading has taken place. This attest shall be legalized by the Swedish and Norwegian consul, if such an officer is at the port, otherwise by a notary public. This attest should contain a statement of the number of brandy casks, as well as of their marks and numbers. In case the brandy has been unloaded in some country nearer to Sweden than England and France, the custom-house seal should be affixed, in order to show that the casks were found intact. The Norwegian law provides that the department of customs shall grant a restitution of import duty on raw material and auxiliary raw material subject to duty, if these materials have been employed in the manufacture of products exported to foreign countries. In regard to brandy and malt beers, the conditions are practically the same as those already described for Sweden.

LEGALIZATIONS GENERALLY.

Express provisions are given in many countries to the effect that every document issued in foreign countries shall, in order to possess authority, be certified or legalized by an officer connected with the diplomatic or consular service of the country. According to the legislation of the United Kingdoms, it is only in certain cases, especially with attests, that legalization is required.

The object of the legalization is to certify that a document is really signed by the person whose name is attached to it, and that if this person is a public officer, he actually exercised his functions at the time of the signature. Legalization has consequently no importance with regard to the contents of the document.

OFFICIAL REPORTS.

Classes.—The reports of consuls to the Swedish and Norwegian authorities are of two kinds, namely, those which may be considered as relating to the trade and navigation of the United Kingdoms and those which are more comprehensive and circumstantial. Reports of the last-mentioned class are usually sent in annually. The consul should always bear in mind that reports which are of importance to the trade and navigation of the United Kingdoms, such as changes in tariff laws, tonnage dues, quarantine regulations, etc., should be communicated with the utmost speed. If a report deals with laws and proclamations which concern the whole country, it should be accompanied by printed or written copies or extracts of the documents.

Annual reports.—The annual reports should be prepared with great care. Only the latest and most trustworthy information should be used in compiling them, and the consuls must make preparations by noting down during the course of the year the facts and events which, in their opinion, will be of interest to the United Kingdoms. It is evident that in the choice of matter for such reports consuls must be guided by circumstances, and principally by the greater or less importance of the districts in which they are located. Generally speaking, the annual reports should be prepared about as follows:

Trade. A review of the condition of trade in the consular district with Norway and Sweden, comparisons with previous years being given; state of the market; market value of Swedish and Norwegian products during the past year; market price of foreign goods which compete especially with those of Sweden and Norway; outlook for Swedish and Norwegian products which are as yet unknown to the markets in the consular district.

Navigation. A review of the entire navigation of the district, including ships of all nations; nations which compete with the United Kingdoms in the freight market; information on the engagement of sailors and their discharge from Swedish and Norwegian vessels; statement of the number of cases of desertion from Swedish and Norwegian vessels, and how many of the deserters were of Swedish, Norwegian, or foreign nationality.

Trade and navigation laws. Synopsis of former reports on alterations in these laws during the course of the year, together with any new provisions regarding tariffs and custom-house regulations; improvements of ports, pilotage, and the like; treaties entered into, repealed, and contemplated.

Industries. A report concerning those industries which have gained a high development in the district, especially such as may lead to export; inventions and improvements in the field of industry; harvests and prospects of the harvests in countries which are in close communication with the United Kingdoms.

Communication. Railways and canals constructed and planned; steamboat navigation lines; improvements in postal and telegraphic arrangements.

Immigration and emigration. Immigration and emigration; its importance on the whole, and particularly the importance of immigration from the United Kingdoms; the condition of immigrants; review of previous reports on the measures taken to improve their condition.

This synopsis of the general instructions governing the consular service of Sweden and Norway will serve to show to what extent the consular officers of those countries act as trade agents. All their chief duties and reports deal directly with the development of trade.

Ernest L. Harris, *Commercial Agent.*

Eibenstock, Germany, *August 11, 1904.*

FOREIGN MANUFACTURES IN RUSSIAN POLAND.

(*From United States Consul Slocum, Warsaw, Russia.*)

Foreign countries marketing their goods in Russian Poland are Germany, Austria, France, and England, and to some extent Japan, China, Denmark, and Holland. Germany, having the advantage geographically, leads easily in respect to quantity, and most of the American goods, except agricultural implements, are sold here through German commission houses; in fact, there have been instances known of bona fide American goods entering this market as of German production. In other reports I have drawn attention to the fact of the ultimate injury to the American manufacturer who thus misguidedly suffers his Russian business to be so represented. Personal representation means everything for success in this market, and the American manufacturer can find good agents here in practically every line. This method assists in determining credits and permits of a closer attention to details of manufacture, necessary in some instances to adapt certain productions to local needs and usages.

Austrian business has increased here of late, her manufacturers being more active than formerly. Her demonstrating exhibition held here last fall is answerable for much of the increase. France and England about hold their own, English machinery in the cotton and woolen mills of Lodz and elsewhere representing the bulk of the British interest, though England's agricultural implement interest is not small. Japan, China, Denmark, and Holland are represented to a small extent in the local markets, the trade of the first named being of the characteristic novelty order.

Austrian, French, British, and especially German salesmen cover this territory frequently. The British manufacturer, like the American, seems in many instances to believe that catalogues and other literature of like nature will answer the purpose, even though printed in English. Few sales can be attributed to such means, and if the American manufacturer must rely on catalogues let them at least be printed in a language that will be understood among commercial people—that is, in German. The English catalogues sent me I carefully preserve, indexed, under their special heads, translating upon occasion, and disseminating when possible; but they do not reach one-tenth the people a German catalogue could be made to reach.

This may be construed as an argument in favor of the German commission man, but it is not so. The leading German commission houses send men through here carrying perhaps thirty or forty lines, some German articles and some of American manufacture. Quite aside from any feeling of patriotism with which the salesman may be imbued, he is going to sell the article on which there is the larger margin of profit for his house, which is the article of German production. I have known of an American patented article being sold here to different dealers at three different figures, and in one instance at less than cost for a small order; and the case is presumably not an isolated one. This low sale was, in effect, an inducement for a large order of other articles. The American manufacturer did not suffer financial loss on that transaction, but he did suffer in that the commercial value of his excellent article was thereby reduced. This manufacturer has now seen the error of his way and has established here a safe and sound agency, which I hear from both ends of the line is doing well.

The usual terms of payment allowed by the British, German, French, and Austrian manufacturers are 25 per cent with the order and the balance on three to six months' credit against acceptance. The American agricultural implement manufacturer has been much more liberal, and by being so has contributed largely to the success which is now his, since, with Germany second, we practically control that trade, which is ever increasing. Attention to details and local usages, ascertained through excellent representatives, accounts for most of the success attained which is not directly attributable to the superiority of the implements.

Credit agencies do not exist here, and those dealers who do not rely upon bankers' references, which in my opinion have little value, use the Berlin agencies, of which some are very good and accurate.

CLARENCE RICE SLOCUM, *Consul.*

WARSAW, RUSSIA, *August 2, 1904.*

ENGINEERING AND TRADE OPPORTUNITIES.

(*From United States Vice-Consul-General Murphy, Frankfort, Germany.*)

Electric plants, etc., Roumania and Servia.—The department of the state railways of Roumania will award contracts for enlargement of the electric plant at Bukharest and for materials and machinery required for electric lighting and furnishing power for the new railway workshops in that city. The department will also receive proposals for supplying machine tools required by the State railways.

The German consul at Belgrade reports to his Government that within the past year a considerable number of electric plants and other industrial establishments have been built in Servia. The consul advises German manufacturers to send expert representatives to Servia to study conditions on the spot.

Railroads, *Servia.*—The Servian Government will spend $2,400,000 for building railroads from Belgrade to Valzedo and between Paratschin and Zaitschar, and invites bids for executing the work.

Agricultural machines, *Bulgaria.*—The directors of the Agricultural Bank of Bulgaria will soon decide upon the quantity of agricultural machines and implements which it will be necessary to purchase for use next year.

Electric plants, *Mexico.*—Electric plants for lighting, supplying power, etc., are to be built in the Mexican cities of Jiminez (State of Chihuahua) and Allende (State of Coahuila).

Railways, *Argentina.*—A concession has been granted to the "Empresa del Ferrocarril Oesta de Buenos Aires" to extend two of its lines of railway about 50 miles each. All materials and machinery for building and equipping these new roads will be granted entry free of duty, provided such articles can not be manufactured in Argentina.

Railway, *Honduras.*—A steam railway line is projected which is to connect the Lagoon Guamoveto with the Aguan River in Honduras.

Electric station, *Brazil.*—An electric power station is to be built in Santos, Brazil.

Railroads, *Spain.*—The Spanish Government has just granted a concession for the building of three lines of narrow-gauge railway. Further particulars can be obtained from the Ministerio plants, de Agricultura y Obras Publicas in Madrid.

An elevated road is to be built at Almeria, Spain, to connect the railroad station with the harbor of that city.

Electric cars, *Straits Settlements.*—The firm of Preece & Cardew, No. 8 Queen Anne's Gate, Westminster, London, will furnish particulars as to electric street cars which the municipality of Penang, Straits Settlements, intends purchasing.

Cold storage, *South Africa.*—The government of Cape Colony, South Africa, contemplates the erection of cold-storage depots in all the ports and in the principal trade centers of that country, and the purchase of a large number of refrigerator cars for its railroad lines. The growing movement among the South Africans to form agricultural cooperative associations also tends toward the increase of cold-storage facilities. American manufacturers in this line should give prompt attention to this opportunity for getting foreign orders.

GEORGE H. MURPHY,
Vice-Consul-General.

FRANKFORT, GERMANY, *August 10*, *1904*.

RUBBER GROWING IN NICARAGUA.

(From United States Consul Hill, San Juan del Norte, Nicaragua.)

The results of the first tapping of the cultivated rubber trees on the east coast of Nicaragua may be of interest to the many investors in the United States who have funds in this industry.

The plantation on which the tapping was done belongs to Mr. J. C. Horter, is situated in the Pearl Lagoon district about 30 miles north of Bluefields, and is the oldest of a number of estates devoted to the cultivation of the kind of rubber known as "Castilloa elastica." In this district there have been planted during the last seven years approximately 500,000 trees of this variety.

The following is Mr. Horter's statement:

"On the 18th of May just passed I commenced tapping the rubber trees on the 'Tennessee' plantation. The trees on this place are all 7 years old, the seed having been planted in 1897 in a nursery and transplanted in a clearing in 1898. They are very uniform in height, all being from 40 to 45 feet, but they vary in circumference from 17 to 30 inches.

"I cut 6,000 trees. But one incision was made in the smaller trees and two in those of average size; some few of the larger trees I cut three times. From the whole I obtained 534 pounds of rubber, an average of 1¼ ounces from each tree. My neighbors seem to think I got very little and are disappointed at the showing I make, but as I had no precedent to work by, being the first, so far as I know, in this locality to tap cultivated trees, the risk of harming them was all mine and not theirs; hence I naturally proceeded with caution. Besides, I was much interested in the experiment, being convinced by previous trials on a small scale that I would benefit the trees and really give them the 'milk habit' by tapping them but slightly at first, and was not intent on getting a large quantity.

"I did, however, tap one tree as an experiment two weeks after it had been first bled, and upon this second tapping it gave as much rubber as at first. I tapped it still a third time with a like result and without harm to the tree. I also tapped a tree of the average size of those on the place and obtained from it 6 ounces. This tree I cut five times on the trunk and made seven small incisions on the spurs or exposed roots.

"Every tree on the place is as healthy as ever, and responds more readily to the knife than before being tapped, if that is possible, and I am justified in my hope that bleeding would benefit them.

"All the work was done under my personal supervision, and I picked with my own hands the coagulated rubber from several hundred trees, carried it to the scales and weighed it myself. Nothing was used to coagulate the milk, nature being allowed to do it all."

The shipment of rubber made by Mr. Horter has been pronounced much superior to that ordinarily shipped from Bluefields, commercially known as "Nicaragua scrap." The "Hulero," or native rubber cutter, in tapping a wild tree, first cuts the spurs, or exposed roots, the milk from which runs to the earth and coagulates with the dirt with which it comes in contact, little or no care being taken to keep it clean. He then cuts the main trunk, and as the milk coagulates in the cuts or on the body of the tree this portion of the product remains pure, and is known throughout Central America as "burrucha." As one wild tree may be a mile from another, the yield of each tree is necessarily bundled separately, or at most with the product of a neighboring tree or two, and the burrucha, or strips, taken from the upper cuts in the trunk, which is always wrapped around the bundle, probably constitutes less than 20 per cent of the whole. As Mr. Horter's shipment was made up entirely of burrucha, it should naturally command a higher price than ordinary "Nicaragua scrap."

Next year Mr. Horter will probably be able to show definitely how much rubber can be extracted from a given number of well cared for 8-year-old trees, which will go far toward answering the all-important question of what profit can be expected from rubber culture in eastern Nicaragua.

JOHN TODD HILL, *Consul.*

SAN JUAN DEL NORTE, NICARAGUA, *August 10, 1904.*

NEW PULP MILL IN NEWFOUNDLAND.

(*From United States Consul-General Holloway, Halifax, Nova Scotia.*)

A special from St. Johns, Newfoundland, to the Halifax Chronicle of September 9, says:

"Sir Alfred Harmsworth, of London, has arrived here to inspect large areas of woodland which his company recently purchased in the interior of the island for the purpose of establishing the greatest pulp mill in the world. The areas embrace 2,000 square miles excellently wooded.

"Part of this territory is already being worked by the Timber Estates Company, of which Henry M. Whitney, of Boston, is president. This concern has large sawmills, 20 miles of railway line, a shipping port, wharves capable of accommodating large ocean liners, and other properties, all of which pass into Sir Alfred's hands. Other tracts, yet unworked, adjoining the Whitney property have been acquired. The purchase price aggregates $450,000.

"Sir Alfred's newspaper interests are in a corporation known as the Amalgamated Press of London. This has been capitalized, for the purpose of conducting the pulp mill enterprise, at $10,000,000. A plant valued at half that sum will be established and work will be started as soon as possible, the intention being to enlarge the plant as rapidly as circumstances permit.

"The special advantages which caused Sir Alfred to select Newfoundland for this venture are abundance of timber, unrivaled water power from a series of lakes, cheaper labor than elsewhere in America, and sea transportation of the product for a shorter distance than from any other pulp-making center on this continent. His own railway will convey the product to tide water at Lewisport, in Notre Dame Bay, only 20 miles from the mills.

"From Lewisport to Liverpool the distance is only 1,720 miles, against 3,300 from New York."

W. R. HOLLOWAY, *Consul-General.*

HALIFAX, NOVA SCOTIA, *September 9, 1904.*

FOREIGN COMMERCE OF PERU.

(*From United States Minister Dudley, Lima, Peru.*)

The following statements, compiled from official publications, show the foreign commerce of Peru during the calendar year 1903. The total foreign commerce of the Republic during that year amounted to $37,185,578—the imports to $18,411,824, and the exports to $18,773,754.

Value of imports and exports of principal articles into and from Peru in 1903.

Articles.	Imports.	Exports.
Minerals, metals, and alloys	$4,567,865	$4,686,388
Sugar	1,892	5,017,622
Cotton goods	2,180,576	112,820
Rubber and rosin	68,985	2,148,801
Wool	554	1,979,963
Cotton		1,547,777
Wheat	1,007,987	270
Woolen goods	870,770	6,400
Hides, and manufactures therefrom	124,958	732,606
Machinery and accessories	790,652	21,410
Wood (timber)	715,788	60,825
Coal	597,058	24,400
Earthen, glass, crockery, and stone ware, and cement	517,547	6,825
Vegetables and vegetable substances	145,413	370,802
Rice	176,908	298,285
Paper and paper manufactures	471,405	5,206
Cocaine		474,435
All other articles	6,173,386	1,830,425
Total	18,411,824	18,773,754

Value of imports and exports of Peru in 1903, by countries.

Country.	Imports.	Exports.
United Kingdom	$7,227,822	$7,485,854
United States	3,767,195	2,395,532
Germany	2,181,428	1,592,155
Chile	1,071,001	2,632,506
France	910,915	488,546
Belgium	1,126,733	7,800
Bolivia	61,798	987,192
Italy	719,194	59,852
China	805,585	8,682
Spain	117,757	117,176
Equador	76,396	199,019
Colombia	5,839	67,151
All other	840,161	2,787,889
Total	18,411,824	18,773,754

Value of imports and exports of Peru in 1903, by ports.

Port.	Imports.	Exports.
Callao	$12,726,050	$4,257,750
Mollendo	1,906,499	2,816,955
Iquitos	1,451,528	2,136,174
Salavery	546,938	1,947,373
Payta	510,443	888,532
Eten	448,645	928,920
Pisco	808,018	763,366
Huanchaco		960,549
Pacasmayo	176,636	404,238
Cerro Ayul		524,555
All other	837,067	3,145,842
Total	18,411,824	18,773,754

IRVING B. DUDLEY, *Minister.*

LIMA, PERU, *August 12, 1902.*

No. 288—04——8

CIVIL SERVICE OF PARAGUAY.

(*From United States Consul Ruffin, Asuncion, Paraguay.*)

In the civil service of Paraguay appointments are made as the ministers of the departments desire. Women are not employed, although they are not ineligible. This is customary in Spanish-American countries, though women sometimes act as postmasters in country post-offices. There is in Asuncion one woman employed in the telegraph office; her compensation is the same as that of the male employees. There are no territorial appointments, except of justices of the peace, who must be from the locality in which they are appointed. There are no special provisions for the appointments of consuls, ministers, postmasters, etc.

The hours of labor in winter are from 7 to 11 a. m. and in the summer from 6 to 11 a. m., but post, telegraph, and internal-revenue offices, custom-houses, and other offices where there is a necessity for a full day's service reopen in the afternoon in winter from 2 to 6 and in summer from 3 to 7.

There are no holidays granted except on national anniversaries and the like and no vacations with pay except in the case of court employees, who have one month. In cases of sickness pay is allowed, with the permission of the minister, for a maximum period of six months.

The chiefs of the different departments keep a confidential record of the efficiency and industry of the employees, but this record does not oblige the promotion of anyone if the ministers do not desire it.

An employee may be transferred from one department to another with the consent of the minister. If an employee is separated from his position for minor causes he may be allowed to return, but if he is convicted by the courts of illegal actions in connection with his office he becomes ineligible for any public position.

There are no restrictions on the political activity of an employee, although he is supposed not to write or speak publicly against the Government. Employment is for four years, except in cases of ministers and others who represent the policy of the Government, who are supposed to resign when they are not in harmony with the administration. As contributions and assessments are not made here for political purposes, the employee is not called on for donations. Any employee, as a citizen, can converse with a legislator, but not as an employee. This matter is completely in the authority of the respective ministers.

There are no labor unions here.

There is a provision made for the support of employees after a service of twenty years, the fund being raised by a tax of 5 per cent on the salaries of all public employees, collected each month. Persons having been in service for twenty years are allowed 50 per cent of the salary which they received, while those having been in the service for thirty years enjoy their full salary.

JOHN N. RUFFIN, *Consul.*

ASUNCION, PARAGUAY, *July 20, 1904.*

AUTOMOBILES IN FRANKFORT, GERMANY.

(*From Deutsche Export Revue, September 1, 1904.*)

The English consul-general at Frankfort, Germany, in his last report complains that England was not represented at the automobile exposition held in Frankfort last spring. He says further:

"The exposition resulted exceedingly favorably, orders having been placed for 50 machines of one kind exhibited. It is not to be wondered at that the exhibitors did a good business, for in spite of the wealth of the people of Frankfort, they had not taken much interest in automobiles until the Gordon-Bennett race. The success of the exposition was so extraordinary that at its conclusion steps were taken to get the next German automobile exhibit at Frankfort. England will, it is hoped, be represented at the next exposition, although her chances will not be so good as they would have been at the first one.

"In general it may be said that the public prefers German machines. At any rate, in the future any manufacturer of automobiles who wishes to compete with Germany must be on the alert, since the automobile industry is one in which the Germans, with their application of industrial science, excel."

WAGES IN BRITISH COLUMBIA.

(*From United States Consul Dudley, Vancouver, British Columbia.*)

The following shows the wages paid in the lumber and shingle mills and logging camps in the vicinity of Vancouver:

Lumber mills.—Laborers, white, $1.75 to $2 a day; Japanese, $1 to $1.60 a day; Chinese, 90 cents to $1.30 a day; head sawyer, $4 to $5 a day; carriage riders (white), $2.75 a day; edge men, $2 to $2.50 a day; edge men's helpers, $1.75 a day; trimmers, $2 to $2.50 a day; engineers, first class, $80 to $125 a month; second class, $60 to $75 a month; firemen, $45 to $60 a month.

Shingle mills.—Sawyers, from 11 to 15 cents a thousand feet; packers (Chinamen), half the amount paid to sawyers; laborers, $1.75 to $2 a day; engineers, second class, $60 to $75 a month; firemen, $45 to $50 a month; Chinamen, 90 cents to $1.35 a day.

Camps.—Men are paid only for actual work. If rain or other cause prevents work men receive no pay. Fellers, $3.50 to $4 a day; butters, $2.50 to $3.50 a day; snipers, $2.50 to $3 a day; barkers, $2.50 to $3 a day; skid road men, $2 to $2.50 a day; hook tenders, $2.50 a day; engineers, second class, $60 to $75 a month; firemen, $45 to $60 a month. All men pay board, which varies.

L. EDWIN DUDLEY, *Consul.*

VANCOUVER, BRITISH COLUMBIA, *August 30, 1904.*

FOREIGN TRADE OF SIAM IN 1903.

(*From United States Consul-General Guenther, Frankfort, Germany.*)

The exports of Siam in 1903 are valued at $20,202,083 and the imports at $17,747,632.

Siam's principal items of export are rice and teak wood. In 1903 $15,373,757 worth of rice and $2,251,375 worth of teak wood were exported; also pepper to the value of $285,116. Of the exports of 1903, 45.4 per cent went to Hongkong, 39.4 per cent to Singapore, 6 per cent to the East Indies, 1.6 per cent to Germany.

The chief articles imported by Siam were machinery, cotton textiles, ironware and cutlery, iron in bars and plates, chemicals, beer and spirituous liquors, ammunition, gold and silver jewelry, ready-made clothing and hats, furniture, glassware and lamps. Of the imports 34.5 per cent came from Singapore, 28 per cent from Hongkong, 9¼ per cent from England, and 5.3 per cent from Germany.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *August 1, 1904.*

CANADIAN SHIPPING.

(*From United States Consul Dickson, Gaspé, Quebec.*)

The total number of vessels on the registry books of the Dominion of Canada on December 31, 1903, including old and new vessels, sailing vessels, and steamers and barges, was 7,020, registering 683,147 tons, an increase over 1902 of 184 vessels and 30,534 tons. The number of steamers on the registry books on the same date was 2,419, with a gross tonnage of 338,251 tons. Assuming the average value to be $30 a ton, the value of the registered tonnage of Canada December 31, 1903, was about $20,494,410.

The number of new vessels built and registered in the Dominion during the last year was 328, of 30,323 tons. The estimated value of these vessels, at $45 a ton, is $1,364,535.

The 7,020 ships and steamers are divided by provinces as follows: Ontario, 1,778; Quebec, 1,228; Nova Scotia, 2,069; New Brunswick, 929; British Columbia, 629; Prince Edward Island, 164; Manitoba, 139, and Yukon, 14.

ALMAR F. DICKSON, *Consul.*

GASPÉ, QUEBEC, *August 26, 1904.*

FRENCH TRADE IN 1904.

The imports into France during the first seven months of 1904 amounted to $516,967,677, against $544,359,009 during the corresponding period in 1903, a falling off of $27,391,332. The exports during the same periods increased from $478,888,426 to $500,177,835, a gain of $21,290,409.

The following statement shows the increase and decrease in the trade for the first seven months of 1904, compared with that of the same period of 1903:

Increase and decrease in French imports and exports during the first seven months of 1904, compared with those of the same period in 1903.

Country.	Imports.	Exports.
Argentina	−$7,037,166	+$1,990,409
Austria-Hungary	− 99,588	+ 378,087
Belgium	− 1,536,473	+ 1,406,790
Brazil	− 457,217	+ 338,329
Germany	− 745,173	+ 4,628,526
Italy	+ 255,918	+ 384,649
Russia	− 7,726,100	+ 384,842
Spain	1,110,715	+ 2,003,340
Switzerland	− 57,514	+ 1,620,814
Turkey	− 450,848	+ 786,475
United Kingdom	− 2,470,979	+ 1,902,980
United States	−11,930,102	+ 257,655
All other countries	− 3,753,195	+ 5,207,513
Total	−27,391,332	+21,290,409

SPANISH VINTAGE.

(From Commercial Agent Price, Jeres de la Frontera, Spain.)

According to the last agricultural report there were in Spain in 1903 3,669,024 acres in vines. These produced 392,156,528 gallons of must. The present acreage is estimated at 4,139,383, which should produce in a good year 914,351,200 gallons of wine.

In 1903 the vintage was bad in 35 provinces, and only fairly good in the other 14. The hard frosts of April and May, in 1903, put the whole vintage in great danger. Nevertheless the crop was larger than that of 1902, which yielded only 321,772,256 gallons—70,384,272 gallons less than the yield in 1903. The vintages of 1902 and 1903 have been the smallest during the last twelve years.

The average quantity of wine produced annually in the last ten years is 557,251,000 gallons. In 1900 the product was 596,866,000 gallons. The shortage in the vintages of 1902 and 1903 represents a loss of nearly $30,000,000 a year to the wine growers, which explains the crisis in the wine-producing districts. Fortunately, this year's vintage promises to be abundant and to compensate for past losses.

M. M. PRICE, *Commercial Agent.*

JERES DE LA FRONTERA, SPAIN, *August 17, 1904.*

IMPORTS OF EGYPT.

(From United States Vice-Consul-General Murphy, Frankfort, Germany.)

Egypt's importation is constantly increasing and the country offers a good market for American manufactures. The imports of metal wares (machinery, cutlery, tools, ironware, etc.) into Egypt in 1903 amounted to $11,213,885. About half of these imports came from England, but Germany, Belgium, and France also participated in the trade to a considerable extent. The United States does not appear to be represented in the Egyptian market, according to a statement of the German consul at Alexandria, who gives the sources of Egypt's imports of metal goods in 1903 as follows: Great Britain, 49.6 per cent; Belgium, 20.6 per cent; Germany, 17.7 per cent; France, 8.9 per cent; Austria-Hungary, 1.7 per cent; other countries, 1.5 per cent. The gain in the importation of metal wares in 1903 over that of the preceding year was $2,585,115. The importation of iron bedsteads increased largely.

Egypt's imports of textiles in 1903 were valued at $24,785.880, which was about one-third of the total value of the country's imports. Great Britain's share was nearly $15,000,000; Austria-Hungary's, $2,186,000; France's, $2,035,000; Italy's, $1,780,000; Turkey's $965,000; that of English colonies in Asia, $965,000; Germany's, $955,000.

Most of the textiles imported by Egypt being cotton goods, the United States should be one of its chief sources of supply. During recent years Germany, Austria, and Italy have become active competitors of England in supplying the textile goods used by Egypt, as the manufacturers of these countries take pains to suit the taste of buyers. Belgium has also entered the Egyptian market as a seller of textile goods.

GEORGE H. MURPHY, *Vice-Consul-General.*

FRANKFORT, GERMANY, *August 22, 1904.*

WAGES OF LABORERS IN GERMANY.

(From United States Consul-General Guenther, Frankfort, Germany.)

Mr. R. Bruschke, secretary of the teamsters' union of Dresden, has published a volume entitled "Local Wages of Common Day Laborers." The German Empire is divided, for the purposes of this publication, into 1,939 districts, for which the local wages of male and female adult and male and female youthful laborers are given.

The wages of adult male laborers vary from 23.8 cents a day, in some parts of the province of Silesia, to 83.3 cents at Bremen. In the principal German cities the day wages for unskilled labor of adults are as follows: Berlin, 69 cents; Hamburg, 71.4 cents; Bremen, 83.3 cents; Aix la Chapelle, 57 cents; Breslau, 57.1 cents; Düsseldorf, 71.4 cents; Hanover, 64.3 cents; Cologne, 59.5 cents; Munich, 71.4 cents; Frankfort, 73.8 cents; Dresden, 66.6 cents; Leipzig, 71.4 cents; Stuttgart, 71.4 cents; Stettin, 59.5 cents; Mannheim, 64.3 cents; Königsberg, 55.5 cents; Nuremberg, 67 cents; Magdeburg, 57.5 cents. It is somewhat surprising that wages in the metropolis, Berlin, should be lower than in a number of other German cities.

The lowest wages in Germany prevail in the purely agricultural districts in the eastern provinces, adjoining Russia. The highest wages are paid in the German seaports and in the industrial centers.

The hours of labor are never less than ten a day, and are frequently twelve.

When it is borne in mind that the necessaries of life, like meats and breadstuffs, are as high as and even higher than in the United States, and that rents of houses are nearly if not quite as high, the wages of unskilled laborers seem very low to an American.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *August 4, 1904.*

NEW RAILROAD IN BRITISH COLUMBIA.

(*From United States Consul Dudley, Vancouver, British Columbia.*)

The trains of the Vancouver, New Westminster and Yukon Railway began running regularly to this city to-day. This road, if not actually a branch of the Great Northern Railway, maintains very close relations with that road. It reaches this city over the new bridge across the Fraser River, recently constructed by the provincial government at a cost of about $1,000,000, and formally opened July 23 of this year. This line gives direct connection with the roads to the south, and its construction will undoubtedly result in a very considerable increase of business between this part of the Province of British Columbia and the Pacific coast States.

Arrangements are being made for the construction of terminal facilities here on a rather large scale, and it is understood that a first-class hotel will be erected by the railway company.

It is expected by the people here that this road will be continued northward, but by what route has not yet been determined, nor has any time been fixed for the commencement of construction.

L. EDWIN DUDLEY, *Consul.*

VANCOUVER, BRITISH COLUMBIA, *August 22, 1904.*

EXPORT AND DOMESTIC PRICES OF BRITISH PRODUCTS.

GLASGOW.

(*From United States Consul Taylor, Glasgow, Scotland.*)

My investigation of the prices of exports compared with domestic prices extends to the manufacturers of the west of Scotland only, but I am assured that what applies to them is typical of the United Kingdom.

Generally speaking, manufacturers of soft goods (cottons, etc.) have one price for domestic and export trade, and surplus stocks are avoided by limiting the output, even to the extent of closing the works. However, if there is a surplus, "odds and ends," it is exported at reduced prices. Manufacturers work almost entirely on orders already in hand, so that the output of the plant is limited, except, perhaps, in very flush times.

In the iron and steel trade, however, it is different. Manufactured steel for export is sold at from 5 to 10 per cent less than for domestic use, and even at a greater reduction. In other words, the cost of transportation to a foreign country where competition is brisk is largely assumed by the British exporter or manufacturer by means of this reduction, and even England is treated as foreign by the Scotch manufacturer, and gets reductions accordingly. The Scotch manufacturer neither expects nor receives the same profits on his exports to foreign countries that he obtains at home. The same statement applies largely to machinery. In Scotland a combination at present exists which fixes the price of steel plates for the whole of Scotland, but gives the members of the combination power to sell in other districts than Scotland at whatever prices they choose.

In the coal trade, in the words of my informant, "it is well recognized that foreign consumers can buy cheaper than home consumers, the reason being that colliery proprietors could not dispose of their product with the regularity and in the quantity necessary to maintain a large output unless they sold cheap and granted facilities to the foreigner."

I may mention in this connection, though it may not be exactly germane to the subject, that an American sewing machine company which, in addition to having large works in the United States, has works in Scotland sufficient to supply the European trade, makes British consumers pay more for machines manufactured in Great Britain than American consumers pay for those manufactured in the United States. The machines are identical, the various parts being interchangeable.

SAMUEL M. TAYLOR, *Consul.*

GLASGOW, SCOTLAND, *August 18, 1904.*

EDINBURGH.

(From United States Consul Fleming, Edinburgh, Scotland.)

"It is the policy of British manufacturers to maintain prices in the home market at the highest possible level and to make whatever concessions may be necessary in foreign markets," said the managing director of a leading British metal-working company to me. He referred to the industries in general, excepting such as are based largely upon the manufacture of low-grade goods for the foreign trade—for example, the cotton industry—which offer no means of comparing home and foreign prices, owing to the different grades of the goods made for the different markets. There can be no doubt that this manufacturer spoke with full knowledge of the subject. His opinion is corroborated by investigation in various departments of production. Cutting prices in foreign markets to meet competition or to prevent competition, as the case may be, is a common practice, the length to which it is carried depending altogether on circumstances, chiefly on stocks and labor conditions. When a considerable surplus remains on the hands of the producer, the effort is to avoid overloading the home market and thus reducing the price of the bulk of the product, and to sell the surplus in foreign countries at the best price obtainable.

At all times, even when general trade conditions at home and abroad are excellent, it is the rule in British industries to quote lower prices to foreign buyers and British exporters than to the average domestic trader. The difference in favor of the foreigner or exporter ranges from 4 to 6 per cent. This concession is made on two grounds, viz: (1) That the producer is saved all expenses of distribution, and (2) that he can afford to quote lower prices on a definite and generally a large order than when manufacturing for stock, the sale of which is uncertain and may not be effected without trouble and expense. Among the many other considerations which enter into trading terms in ordinary times are the conditions existing in particular foreign countries. For instance, the British maker of an important machine informs me that although he has no competition, he quotes the machine to customers in Belgium and one or two other countries on the Continent at 15 per cent less than the price at which it is sold in this country. The reason is that these Belgian and other Continental firms will not pay more than a certain amount for it, and he comes to their terms in order to obviate the danger of competition arising from the invention and manufacture of a similar apparatus in Belgium or elsewhere. He told me that he would sell abroad, in the present state of trade, at any price he could get above cost. Another example of sales made in a foreign market at much below home prices has fallen directly under my notice. I have seen invoices of a British firm of steel-wire manufacturers to German buyers, in which the prices were fully 20½ per cent lower than the prices quoted to home customers. This reduction was not due to an extraordinary surplus, but principally to a determination to put a certain line of goods into a competitive market.

There are few manufacturers whose business in foreign competitive markets is not regularly conducted on the plan of getting the goods off their hands at a profit if possible, and at cost if necessary. It may be doubted if price lists and discount sheets are anything more, outside of the home market, than aids to bargaining, except in seasons of very marked activity at home. As a rule, prices are specially arranged between the manufacturer and exporter or foreign buyer. In such trades as hardware, brass goods, cutlery, structural iron and steel, paper, engines, boilers, hand tools, chemicals, rubber goods, tubes, silver and plated ware, wire goods, sanitary appliances, stoves and ranges, and most lines of machinery, prices in foreign countries are governed almost wholly by conditions at home at the time and by other circumstances quite apart from quotations in the domestic market. In most trades the one fixed purpose is to not reduce prices to British consumers until forced to do so. As one manufacturer expressed it to me, "This is the very root of success in all commercial business—to hold what you have and gain what you can."

Overproduction is an evil no less frequently observed in Great Britain than in Germany and the United States. A well-known English writer on economic subjects, who belongs to the Manchester school, said to me in a recent conversation that it was distinctly true, as stated in one of his works on trade relations, that overproduction, although not (in his opinion) so widely diffused here as in the United States, was a difficult recurring factor in the commercial problem; that "the British manufacturer, under such circumstances, recognizes the inadvisability of flooding his own markets with cheap commodities, which they will require time to digest, thus deferring the period when he can supply them again profitably, and therefore he sells the surplus to foreign countries at a loss." He added that "there is scarcely a tariff wall in existence that the British manufacturer will not climb over at such times."

This political economist looks upon the foreign trade as distinct from the domestic trade, to be handled by each producer as circumstances seem to demand, especially in periods of overproduction. To the same effect a prominent brewer, an ex-member of Parliament, said: "I have been 'dumping' ale and beer on foreign markets all my life, whenever I have had a surplus. Practically every manufacturer in this country sells his goods abroad for the best price they will bring, when his stock is too heavy to be unloaded at home in a reasonable time without breaking the market." As I have before indicated, this statement of British commercial practice is, in my opinion, unquestionable.

RUFUS FLEMING, *Consul.*

EDINBURGH, *August 25, 1904.*

LIVERPOOL.

(*From United States Consul Boyle, Liverpool, England.*)

There does not appear to be any general or fixed rule under which British manufacturers sell export goods at a lower price than is charged in the home market. I have come across a number of such instances, however, but nearly every case depends upon particular circumstances, and I do not find that there is any general policy of "dumping," which is the term used in this country for selling goods abroad cheaper than at home. The nearest approach to "dumping" on the part of manufacturers in this consular district of which I have any knowledge within recent years was that of Brunner, Mond & Co. (Limited), the chemical manufacturers of Northwich, Cheshire (since July 1, 1904, in the consular district of Manchester). The products involved were soda ash and bicarbonate of soda. The customs duty did not figure in the arrangements at all, as the duty is specific; but at about this time the English manufacturers of chemicals began to feel the keen competition of the product of American manufacturers in the American market. It was, I understand, the distinct policy of Brunner, Mond & Co. (Limited) to sell their products on the American market at a rate which not only "undercut" the American products, but was less than the price in the English market. This went on for some time, until Brunner, Mond & Co. (Limited) effected an arrangement with parties, both American and foreign, interested in the sale of chemicals in the United States, and then, as I am informed, became part owners of chemical factories in Syracuse, N. Y., and in Michigan. Since then, according to the best information obtainable, there has not been any systematic "cutting" of rates for chemicals in the American market below the rates in the English home market, although I believe it is true even now that occasionally certain chemicals, and particularly bicarbonate of soda, produced in this neighborhood are sold cheaper in the United States and in Canada than in this market.

Sometimes foreign prices are lower than the home prices in cases where the British manufacturer has a monopoly. A case in point is that of "recovered" oil. This article is obtained from manufactures of wool. During the process of cleaning wool the natural oil is necessarily washed out, but oil is necessary for the production of yarn and woolen goods, so that oil has to be added to the wool after it is cleaned. In the process of manufacturing the yarn and the goods this added oil exudes. It is then "recovered"—that is, it is made fit for use again in the process of wool manufacturing; and being oil of a particular kind, it has a peculiar value of its own. Great Britain being a large producer of woolen manufactures, a great deal of this oil is in the market—more than there is a home demand for—and none is imported. The manufacturers of this "recovered" oil have an understanding among themselves that they will not lower the home price, as they have a monopoly of the home trade, and so they sell abroad at a lower price than at home, and they can also undersell the foreign manufacturer of this particular oil.

I am also informed that certain other manufacturers, like the well-known firm of Nettlefolds (Limited), of Birmingham, which makes iron and brass and wooden screws, often sell abroad cheaper than at home. This is so sometimes when producers are working in "conference" in particular lines of steel work. There are instances also where manufacturers regulate their prices according to the country to which the goods are to be exported and according to the competition they may meet with from home manufacturers of that particular country. Sometimes an English manufacturer will be asked to name a price, or will be given an order conditional on the price being not more than a certain figure, and generally this competitive figure is one quoted by an American or a German manufacturer.

Other British products that are sometimes sold cheaper in the foreign than in the home market are bicycles, etc. The reason for this is that in the home market the manufacturer has to give a guaranty to the wholesale or retail dealer, who in turn has to give it to the individual buyer, to the effect that any damage through faulty construction or material will be made good, say, within a year. There is, I believe, no such guaranty exacted in the foreign market, and the manufacturer can therefore quote a lower rate.

Another reason why goods for export are sometimes sold for lower rates than are charged for the same goods in the home market is that generally export orders are large ones, while home orders may be comparatively small.

Speaking generally, I do not find that it is the practice of exporters to sell for less in the export trade than in the home trade.

As to the disposition of surplus stocks, that question does not arise to such a great extent as in the United States. There is not nearly as much overproduction by British as by American manufacturers. There are various reasons for this difference, an important one being that overproduction is contrary to the natural conservatism of the British people. Another important reason why there is not much surplus stock is because manufacturers can "close down" their factories when they have about caught up with the demand with much less risk than American manufacturers run in doing so. In the United States when a factory closes down it is not at all unusual for the operatives to go elsewhere, whereas in England the operatives have not the means, and very seldom the inclination, to go elsewhere in search of employment.

Summing the case up, it may be said that any sacrifices in price by British manufacturers in the foreign markets are owing to the ordinary vicissitudes of trade.

JAMES BOYLE, *Consul.*

LIVERPOOL, ENGLAND, *August 30, 1904.*

SHEFFIELD.

(From United States Consul Daniels, Sheffield, England.)

An extended inquiry among the manufacturers of this consular district fails to disclose a single case in which it is their custom to sell their product to foreign purchasers at a less price than the same goods are offered for sale in the home market, and there are no manufacturers that admit that at any time is this practice resorted to in order to dispose of surplus stock.

On the contrary, my investigation shows that it is the custom to give the home purchaser the benefit of a slightly lower price than the foreign purchaser, the difference in price ranging from 2½ to 5 per cent, depending upon the goods sold and the standing of the home buyer.

CHARLES N. DANIELS, *Consul.*

SHEFFIELD, ENGLAND, *September 1, 1904.*

LONDON.

(*From United States Consul-General Evans, London, England.*)

I find that trade here is conducted along about the same lines as in the United States. No doubt goods are sometimes sold to foreign buyers at a less price than in the home market, though the manufacturers deny this when asked, or qualify by explanations and reasons, alleging that they are closing out that pattern; that the home market demands certain changes, etc. I am quite convinced that concessions are made to foreign buyers in order to secure orders, but the fact is carefully concealed.

As an instance, a firm of publishers here had issued a large edition of a book of fiction. It was placed on the trade here to jobbers at 2s. 6d. (60 cents), but did not sell as well as expected, and several hundred copies were left in the hands of the publishers, which they closed out to a Boston buyer at 1s. 6d. (36 cents). On arrival the appraisers at Boston increased the value to 2s. 6d. A member of the firm selling called, on notice of the action of the appraisers at Boston, to explain that the sale was regular; that the invoice price (1s. 6d.) was the correct one; that his firm wanted to realize on the stock, to close out the lot; that they could not afford to break faith with their home customers, to whom they had sold at 2s. 6d.; and that they would have closed out the lot to any foreign buyer (outside the Kingdom of Great Britain) at the price at which it was sold.

I find that manufacturers here endeavor to maintain home markets, but when they can find a foreign market they will bid for it, get it if they can without too great a loss, and thus increase the demand for their output and reduce the cost of production without demoralizing home prices.

H. CLAY EVANS, *Consul-General.*

LONDON, ENGLAND, *August 17, 1904.*

MANCHESTER.

(*From United States Consul Bradley, Manchester, England.*)

After interviewing a number of Manchester manufacturers I conclude that in this district there is no general practice of selling abroad at lower prices than in the home market. Sales are made on the usual trade basis, with reference to competition, size of the order, etc., without regard to the country whence the order comes. The firms generally aim to get a certain percentage of profit; if the price of one article is shaded the reduction is made good as far as possible by advance on the price of another to keep up the average.

Wm. Harrison Bradley, *Consul*.

Manchester, England, *September 9, 1904*.

MR. WITTE ON RUSSIA'S TARIFF POLICY.

(*From United States Consul Monaghan, Chemnitz, Germany.*)

The recent utterances of the Russian minister of finance, Mr. Witte, in a speech delivered to the congress for the expansion of the use of iron in Russia, which met in St. Petersburg, may give a cue to the future industrial policy of Russia. Mr. Witte is distinctly a protectionist. He asserts that history presents not one solitary example of a nation whose productive powers were developed through the influence of a system of free trade. England is not excepted. The brilliant example of the United States is cited as showing how the pursuance of a protective policy has made a nation into a mighty industrial power.

Russia, says Mr. Witte, presents the same diversification in industry and resources which characterizes the United States. Every resource needed to industry, whether agricultural, manufacturing, or mining, can be found in the domains of the Empire. By walling Russia in with a high protective tariff he believes that the country can be made to experience a marvelous development. Even the present protective policy is not radical enough to satisfy him. He wants to see the iron industry fostered by better protection. Russia is annually importing from $70,000,000 to $80,000,000 worth of machinery of all kinds, but especially of agricultural implements. This import trade is to be cut down. Russia, with its immense coal and iron deposits, is to meet the demand. But this can not be done in a day, and many continental writers have great doubts as to the wisdom of such an absolute protective policy. Even though the iron production of Russia more than quadrupled in the twenty years from 1880 to 1900, and in the latter year amounted to 1,916,460 tons, it is still far from the stupendous figures of the United States or those of Germany. The iron production of Germany is now about 8,000,000 tons and that of the United States about 13,000,000 tons. That some of Russia's infant industries have already developed to very respectable proportions is shown by the following figures, giving the number of establishments, the number of employees, and the value of the product:

Name of industry.	Number of factories.	Number of employees.	Value of output.
Metal	5,824	758,644	$362,753,125
Textile	4,449	642,520	487,342,440
Food-stuff	16,512	255,357	333,779,740
Leather	4,238	64,418	68,009,870
Wood	2,357	86,273	52,982,685
Ceramic	3,413	143,291	42,533,850
Chemical	769	35,820	30,670,825
Paper	532	46,190	23,427,350

J. F. Monaghan, *Consul*.

Chemnitz, Germany, *August 29, 1904*.

AMERICAN FURNITURE SCARE IN ENGLAND.

(*From United States Consul Hamm, Hull, England.*)

The accompanying article from the London Daily Telegraph for August 25 may be found serviceable for informing, instructing, and admonishing American furniture manufacturers and dealers. The writer has evidently seen only the common make and style of American furniture, and has fallen into the error of supposing that there is no other kind. The article, while undoubtedly intended to scare off American furniture manufacturers, contains a lesson as to the need of studying the customs, manners, and prejudices of a people if a profitable trade among them is to be built up:

FURNITURE AND FOREIGNERS.

AN AMERICAN INROAD.

"We have all been bred up in the pious belief that while we are in all things a superior people, as regards our furniture it is a case of England first and the rest nowhere. The English cabinetmaker is supposed to fear no foe. It is, therefore, with something of a shock that we read in a telegram from the New York correspondent of the Daily Telegraph: 'Trade papers here are pointing out that England offers an exceptional field for American furniture, which, owing to the plentiful supply of wood and the employment of the latest machinery, is both good and cheap.'

"The presumption of America in supposing that the old country is to come to her for furniture is amazing. It is also, to those learned in furniture, rather amusing. There is, however, a certain charming naïveté about the statement which leads the expert to suspect guile. The managing director of one of the largest furniture-dealing firms in London, to whose attention the telegram was brought, inclined to believe that the bland assurance with which the American trade papers anticipate the capture of our country as a dumping ground for American furniture was intended to "draw" manufacturers on this side, and induce them to rush into print with details explaining why American furniture had hitherto failed to meet English needs. Thus some highly valuable information would be placed gratis at the disposal of the acute American manufacturer. It is possible that this may be too subtle an explanation, but if the American manufacturer does really suppose that his furniture is to capture the English market, he is a very sanguine person for whom much sorrow is in store.

"The simple reason is that American furniture is not good enough. It runs too much on the lines of what trade journals on the other side poetically term 'very attractive lines in mission fitments'—gaunt. ungainly designs worked out by machine in cheap woods. Perhaps the idea that England is a dumping ground where rubbish may be shot is not yet eliminated from the American mind.

"Of course, England does import furniture from America. Of the £700,000 [$3,406,550] worth of furniture and cabinet ware which came from abroad in 1903 America sent a larger part than any other country—£250,000 [$1,216,625] worth. America and France are, indeed, the only countries which send us as much as the value of £100,000

[$486,650] in the year, and France, with £200,000 [$973,300] to her credit, makes a good second to America. But those figures represent goods of a totally different kind. The French furniture is highly polished, elaborate work; the American cheap and machine made. In one solitary 'line' can the Americans claim the bulk of the English trade. The roll-top desk was originally an American invention and for some years an American monopoly. But at the time of writing a fight is in progress. A desk is now being produced in England which in price competes with the American-made article, and in quality, according to experts in the retail trade (who, as they make a profit indifferently by either article, are unbiased), is distinctly superior. The result is that a 'rate war' in roll-top desks is now raging, and prices are being ridiculously cut. Probably the end of it will be that the Englishman will capture the better-class trade.

"For the plain fact is that the English cabinetmaker has no competitors. His work is copied by every country in the world, but none is within challenging distance. Even the finest French work, which no doubt comes nearest, is a bad second. In 'finish' the Frenchman can hold his own, but in the actual cabinetmaking, the putting together of the article, he leaves much to be desired. The German workmanship is not bad, but the design is heavy and clumsy. No other country need be considered. Cabinetmaking is one of the very few trades which remain little affected by the factory system. Omitting cheap machine-made furniture—the only class, apparently, within American ken—the bulk of it is not made in factories at all. London is the center of the trade, and Shoreditch and Bethnal-green are its sancta sanctorum. A stranger there going into a large dealer's, seeing furniture standing unstained, unpolished, and the sound of a workshop hard by, may imagine himself in a factory. But in all probability every article in that shop was made in a private house. The best furniture making is a home industry. A man, his wife, and his family, with perhaps one or two workmen, work together on their own account, and the large retail houses deal directly with these 'garret masters.'

"A large firm will keep many in constant employment. As a rule, a man devotes himself solely to one article; thus, one house never makes anything but 5-foot sideboards, while next door scorns to produce anything but overmantels. With the trade handed down from father to son through one generation after another, great manual dexterity has been acquired, and with the new opportunities for technical instruction and the recent awakening of interest in arts and crafts, it is the opinion of experts that the English cabinetmaker is advancing in skill by more and more rapid strides. With the best work the design is not the cabinetmaker's own. A first-class English firm obtains the best artistic talent in design and then resorts to the best manual skill for execution. There can obviously be no question of comparison between work so produced and machine-made stuff, though the machine be the very latest American invention. But although London is the center it is by no means the only seat of the trade. Cabinetmaking, essentially a home industry, is carried on in all parts of the country. Considering that it can be as well carried on in rural districts as in towns, that it is a healthy occupation insuring good wages (in London 1s. or 1s. 3d. an hour is no uncommon pay), the spread of the trade out of London is, on purely social grounds, much to be desired, as affording a relief to overcrowded districts and a healthier life to many town dwellers. Buckinghamshire, a typically rural county, has, thanks to its supplies of timber, long distinguished itself in cabinetmaking. Wycombe is said to send out millions of wooden chairs in the year. These, of course, are cheap stuff, but of late much skilled work, of which experts speak in the highest terms, has come from the country. Those who feel the danger of the depopulation of rural England might do worse than foster the industry in other shires.

"It hardly needs proof that in work which requires so high a degree of specialization, so high a development of individual manual skill, no competition of machines and factories is to be feared. The one fault to be urged against English workmen and designers is a stolid reluctance to adapt their work to the requirements of alien climates. Their attitude is too often that what has been proved best in England is best for, say, Timbuktu, whereas Timbuktu, lacking the delightful climate of our own land, may require certain modifications to suit its temperature. These the Englishman at times refuses to make, and so lets trade go to more adaptable rivals. Even with this handicap we keep our import and export figures in quite satisfactory proportion: Imports of furniture and cabinet ware in 1903, £707,414 [$3,442,630]; exports of furniture and cabinet ware in 1903, £940,311 [$4,578,456].

"Such statistics look well in the rough, but one or two qualifying considerations make them even better. The foreigner in almost every case has the advantage of cheap lumber, timber at his door, so that we are heavily handicapped before we give him this handsome beating. Moreover, the foreign work is cheap stuff, and so of the £707,000 at which it is valued, the greater part represents the bare cost of the timber. On the other hand, our exports are highly priced work, in the value of which the cost of labor goes for far more than the cost of material. Now, it is obvious that the manufactures most valuable are those which require the largest quantity of highly skilled labor; the manufactures least worth having are those which employ only a small quantity of indifferent labor. It will be seen, therefore, that as regards the furniture trade England has chosen the better part, and that our supremacy is even more pronounced than the figures £707,000 to £940,000 would suggest.

"English manufacturers, indeed, have no fear as to their ability to hold their own, and in high-class goods some of them hope to invade the United States with success despite the high tariff. Their furniture, for example, makes an excellent show in the varied industries building of the World's Fair at St. Louis, where the principal exhibits are those of Messrs. Waring & Gillow and Messrs. William Birch, of London and High Wycombe. The latter firm has the largest individual display of furniture at St. Louis, occupying a superficial area of between 3,000 and 4,000 square feet, and showing a completely furnished drawing-room, dining room, bedroom, and library. These are principally in the Chippendale, Sheraton, and Hepplewhite styles. American trade criticism seems to be that the pieces are artistic but too fragile to be serviceable. However, considering the quantity of original furniture of those periods which has survived whole decades of use and ill use during years both of appreciation and neglect, the criticism does not seem very sound. The drawing-room suite is of East Indian satinwood, the dining room is in fumed oak, and in what is called the new art style, the bedroom and library are in mahogany of the Sheraton style. The entire exhibit has been bought by Messrs. Wanamaker, but before any of the articles pass into private ownership they will be shown in both New York and Philadelphia. In a recent number of an American trade paper one of the members of the firm commented on what seemed to him the sameness and mediocrity of taste displayed by the American furniture makers. The quality was excellent, but every article looked machine-made. He expressed the opinion that when the existing depression in America passed away there would be a big demand in the United States for such goods as Messrs. Birch were making at High Wycombe and showing at St. Louis."

WALTER C. HAMM, *Consul.*

HULL, ENGLAND, *August 26, 1904.*

TRADE RIVALRY ON THE HUMBER RIVER.

(*From United States Consul Hamm, Hull, England.*)

An energetic rivalry for the commerce centering on the Humber River has sprung up, and it is likely to materially affect the trade relations of foreign countries with this neighborhood. Hull has always been the chief port of entry and export on the Humber. This good fortune has not followed any supreme advantages of location, but has resulted rather from the fact that Hull is the oldest and most widely known port on the river. The city has grown rich and prosperous on the trade it has thus enjoyed. Its population now exceeds 250,000, and in amount of shipping and in exports and imports it ranks third in England, London and Liverpool alone surpassing it. The comprehensive public improvements recently carried out, which have completely transformed the city, are a striking evidence of the city's prosperity.

But Hull is now threatened with conditions which may check its growth and draw away a share of its trade. Grimsby, on the opposite bank of the Humber River, 10 miles nearer the sea, and Goole, 18 miles farther up the river, at the head of navigation, are making energetic efforts to draw trade to themselves and to bring to their doors a share of the business which has made Hull prosperous. The advantage of Grimsby is that it is situated nearer the sea, and ships stopping there can avoid the dangers and delays incident to the navigation of a river where the tide rises and falls 15 or 20 feet. The advantage of Goole is that it lies nearer the coal fields of Lancashire and Yorkshire, and is the terminus of the railroads which control that trade.

A new impetus was given to the competition between these places at the recent session of Parliament. Grimsby was granted the privilege of building a new dock, which when finished promises to be the most commodious on the east coast of England. This project has been in contemplation for some years, but it has been delayed by the vigorous opposition of Hull. Now that the privilege has been obtained Grimsby and the railroads centering there are anticipating a great increase in business and an enlarged prosperity. Grimsby has at present a population of 75,000, and if its expectations are realized it will have double that number ten years hence.

Goole, which is a city of 20,000 people, was also benefited by the recent session of Parliament. The Lancashire and Yorkshire Railway, which has one of its termini there, was authorized to establish a line of steamers to run between Goole and ports in Holland, Belgium, and the Baltic. This is a more important concession than appears on the surface. The Lancashire and Yorkshire Railroad taps the coal fields of central England and carries to market a large share of their products, whether consumed in the neighborhood of the Humber River or exported to foreign countries. How important this trade is can be seen from the report of the Hull coal trade for July of this year.

The consignments of steam coal to the port of Hull during July, 1904, reached 351,088 tons, an increase of more than 24,600 tons over the consignments in the corresponding month of last year, and of nearly 50,000 tons over the quantity sent during June, 1904. The total quantity received during the first seven months of 1904 is just short of 2,000,000 tons, being 46,640 tons greater than the quantity received during the same period of 1903.

The quantity shipped abroad shows a steady increase also, the exports during July being 170,068 tons, or more than 24,500 tons greater than those of July, 1903, though the total exports this year, 833,393 tons, are something like 33,000 tons less than those during the first seven months of 1903. Last year's total was, however, increased by the strike in the United States, over 120,000 tons being then sent thither from Hull, whereas only 3,000 tons have gone to the United States this year. Yorkshire firms still hold the north Russian and Swedish markets, the former taking this year nearly 11,000 tons and the latter 30,000 tons more than in 1903. Other countries to which there have been bigger shipments are Egypt, nearly 20,000 tons; Italy, 25,000 tons, and Holland, 16,000 tons. On the other hand, France and Denmark have taken 14,000 and 11,000 tons less, respectively, than in 1903.

The total amount of coal brought into Hull during the year 1903 was 3,431,456 tons, of which 1,859,554 tons were exported abroad and coastwise, while the amount exported abroad and coastwise from Grimsby and Goole together during the year was 2,384,195 tons.

The loss of this coal trade would be a severe blow to the interests of Hull, and those who have its welfare at heart are naturally concerned over the prospect. If the new steamship line from Goole is to take away Hull's coal export trade, and a new and improved dock at Grimsby is to capture a share of its shipping trade, a permanent check will be given to its growth. It is not certain, however, that this result will follow. Hull has sources of prosperity which it has not yet called upon, and it can not be supposed that its business community, which has built up its trade and made it the third shipping center in England, will sit down supinely and permit its whole future to be clouded. That would show a lack of foresight which the English people have not evidenced in the past. The rivalry between these three cities will, however, be watched with much interest. It promises to have important commercial results, and to affect profoundly the trade interests, not only of Hull itself, but of all the east coast of England and all the countries doing business with this neighborhood.

WALTER C. HAMM, *Consul.*

HULL, ENGLAND, *August 22, 1904.*

GERMAN CEREAL AND POTATO HARVEST.

(*From United States Consul-General Mason, Berlin, Germany.*)

From definite statistics gathered and tabulated by the Berlin Produce Exchange a closely approximate comparison can now be made between the German cereal and potato harvest of 1904 and 1903, and an estimate of the deficit that will have to be filled by importation can be formed.

The comparison (in metric tons of 2,204 pounds) is as follows:

Grain and potato crops in Germany, 1903 and 1904.

Kind.	Total crop, 1903.	Total crop, 1904.	Decrease, 1904.
	Metric tons.	*Metric tons.*	*Metric tons.*
Wheat	3,555,064	3,100,000	455,064
Rye	9,904,493	8,620,000	1,284,493
Barley	3,323,639	2,830,000	493,639
Oats	7,873,385	6,000,000	1,873,385
Potatoes	42,901,530	35,580,000	7,321,530

The annual requirements of Germany for food, forage, and seed for replanting the various crops, based upon the experience of an average year, are as follows:

Quantities of grain and potatoes needed annually in Germany.

Kind.	For food and forage.	For seed.	Total.	Deficit, 1904.
	Metric tons.	*Metric tons.*	*Metric tons.*	*Metric tons.*
Wheat	4,764,808	336,770	5,101,578	2,001,578
Rye	8,025,660	1,010,680	9,036,340	416,340
Barley	3,715,983	249,020	3,965,003	1,135,003
Oats	5,960,230	639,440	6,599,670	1,599,670
Potatoes	31,886,268	6,161,170	38,047,438	2,467,438

The total difference between the estimated home product of this season and the needs of an average year is, therefore, 5,152,797 metric tons of grains and 2,467,438 metric tons of potatoes.

If now the actual imports of grains during the two last years are considered in the light of the foregoing statistics of production and consumption there may be gained a very closely approximate idea of the requirements of this country in respect to imported grain products during the coming year.

The much less important deficits of 1902 and 1903—both years of average productiveness throughout Germany—were met by the following importations:

German imports of grain and potatoes, 1902 and 1903.

Kind.	1902	1903
	Metric tons.	*Metric tons.*
Wheat	2,074,530	1,929,109
Wheat flour	31,545	31,979
Rye	976,042	813,763
Barley	389,254	470,321
Corn	900,580	953,239
Potatoes	158,800	179,469

It remains to note the amount contributed to these several items of German import by the United States:

German imports of grain from the United States, 1902 and 1903.

Kind.	1902	1903
	Metric tons.	*Metric tons.*
Wheat	1,019,414	565,280
Rye	53,869	40,129
Oats	2,919	1,785
Barley	3,650	2,280
Corn	60,145	514,258

The serious loss of grass, hay clover, and oats through the severe and widely extended drought of this year will make heavy demands for foreign-grown forage grains, so that an active market for American corn and oats, as well as wheat, may be expected in this country.

FRANK H. MASON, *Consul-General.*

BERLIN, GERMANY, *September 5, 1904.*

TECHNICAL EDUCATION THE BASIS OF GERMAN INDUSTRIAL PROGRESS.

(*From United States Consul-General Mason, Berlin, Germany.*)

At the dedication of a technical college for the textile industry at Sorau, Herr Möller, the Prussian minister of commerce, spoke with great earnestness and effect upon the peculiar importance of technical education to the present and especially to the future of German industries. He emphasized the fact that competition and other difficulties in the way of foreign trade are steadily increasing, and gave warning that the future holds a struggle for German export trade. Continuing, he said: "Those whom we have been pushing out are beginning to defend themselves. Our former markets are becoming producing countries, and we shall doubtless have to see certain branches of our business decline and pass over to other countries which have cheaper labor than we. Hence we shall be more and more obliged to perfect our industries, and not only to follow up promptly all novelties and changes of taste, but to take the lead in creating such changes." In a word, Germany, being mainly dependent upon foreign markets, requires the highest technical development to maintain her place in the competition.

The lesson embodied in these words of the minister of commerce finds many illustrations in the various fields of German industry, but in none is the demonstration more striking and conclusive than in the department of chemical manufacture, of which the total annual product is valued at about $300,000,000. The organization of chemical study and research in Germany for industrial purposes was begun by Prof. Justus von Liebig, who set up the first up-to-date university laboratory at Giessen, about fifty years ago. The great work of Liebig was to train a number of able pupils to work by his methods, to explore the secrets of nature, and to find what processes, analytic and synthetic, could be made to serve the practical needs and purposes of mankind. His example and achievements had the important result of convincing the several State governments of Germany that it was wise and would in the end prove profitable to found and maintain advanced schools for scientific study.

From these technical schools and the laboratories of German universities have come the army of young chemists who have made applied chemistry the most vigorous and successful, as it is the youngest, of German industries. It is a threadbare statement that four-fifths of all the world's annual product of dyestuffs, as well as a large proportion of the medical preparations derived from coal tar, are made in Germany. The aniline industry began in Great Britain, which is the largest producer of benzole, and spread to France, Switzerland, and Germany. In the latter country it was met by a throng of trained chemists just out of the technical schools and universities, bright, energetic, and eager to investigate everything and to make long, patient, persistent studies in any prescribed line.

It is these men, who now number between six and seven thousand, who are willing to work in original research, in laboratories provided by the great chemical companies, for small salaries and an interest in whatever of value they may discover, who have brought the chemical industry of Germany up to its present leading position and kept it there. They have made it possible for Germany to import benzole from Great Britain, Belgium, and Austria-Hungary, and to sell its ultimate products, multiplied many times in value, to all civilized countries. Not less than 29,336 tons of these precious materials were exported in 1902, of which 5,650 tons went directly to the United States, 6,334 tons to Great Britain, 1,623 tons to British India, and 2,178 tons to China.

The history of one of these coal-tar products—artificial alizarine or indigo, made synthetically from anthracene—reads like a romance. In 1892 the German Empire imported 3,556,740 pounds of natural or vegetable indigo, valued at $4,450,000. In May, 1897, Doctor Bayer, a chemist at Munich, solved the problem of making indigo synthetically, since which time the value of German imports of the natural dyestuff has sunk to $833,000 in 1902, while the exports of artificial indigo have risen to 9,154 tons in 1903, of which 2,743 tons went to the United States.

The careful analyses of soils and the skillful use of chemical and other fertilizers to meet exactly the deficit in essential elements has revolutionized agriculture in this country. It is due largely to the work of expert chemists that the percentage of saccharine content in sugar beets has been raised from 5.72 per cent in 1840 to 13 per cent in recent years, whereby the whole German sugar industry was saved from collapse. Similarly in the iron and steel manufacture and in the whole long, varied schedule of textile production it is only the possession of a vast army of skilled chemists, metallurgists, designers, dyers, weavers, and spinners, recruited year by year from graduates of the universities and technical and industrial art schools and backed by salesmen and merchants elaborately educated and trained for commercial work in foreign countries, that has enabled Germany to practically monopolize certain special forms of manufacture, and, despite limited natural resources, to conquer and maintain a place in the front rank of industrial nations.

FRANK H. MASON, *Consul-General.*

BERLIN, GERMANY, *September 2, 1904.*

GENERAL CONDITIONS IN PANAMA.

(*From United States Minister Barrett, Panama, Panama.*)

Having been here a full month and having carefully noted existing conditions and discussed them with members of the Isthmian Commission, the chief engineer of the canal, the sanitary officials, the consul-general, and others competent to judge, I beg to submit a few suggestions.

OPPORTUNITIES FOR EMPLOYMENT.

No man seeking a position as clerk, stenographer, typewriter, engineer, foreman, or any similar position which the average American will be willing to fill, should come to the Isthmus unless he has made some previous arrangement for employment, or has sufficient funds to pay his expenses in Panama and his passage back to the United States if he finds no opening. More men of these classes are now coming to Panama and Colon than there are positions to be filled. The cost of living is very high, prices having increased nearly 300 per cent in the last six months, and there is a great shortage of cheap and good lodging and board accommodations.

BUSINESS OPPORTUNITIES.

While Panama, Colon, and towns in the Zone and in the interior of Panama proper are sure to experience a considerable measure of material and industrial progress through the digging of the canal, there are not at present many opportunities for the establishment of new mercantile, business, and professional firms, and there should not be an inrush of merchants and business and professional men in the expectation of finding ready openings. It would be best for men desirous of locating here in business enterprises to come first and look over the field before finally closing up their offices in the United States.

PROSPECT OF A BOOM.

It is the consensus of opinion among members of the Commission and others who have studied the situation that Americans both in the United States and Panama have greatly exaggerated the increase of population which will result from the construction of the canal, and the number of men who will be employed by the Commission for the carrying on of the undertaking. It is not probable, in view of the modern systems to be employed in construction, that there will be at any time more than 12,000 or 15,000 men directly employed as ordinary laborers along the line of the canal. If we add to these some 5,000 to cover the small number of families that will be brought and those who might be termed camp followers, and if we further add 5,000 to represent high-class employees and all kinds of business and professional men who may come here on account of the work, and all others employed, we have, at the outside, an increase of only 25,000 people. This number, moreover, will not come here all at once, but gradually, through a period of years, as they may be required. Estimates that some 40,000 to 60,000 people will be brought to the Isthmus through the construction of the canal are exaggerated and will prove deceptive. As the latest estimate of population of Panama, according to Whittaker, is 340,000, this 25,000 added through a period of years is not sufficient to create a great boom, as that term is commonly used.

There is not yet any real boom in Panama, in Colon, or in the Zone, but rents for houses, stores, and offices have doubled and tripled during the last few months, and are now exorbitantly high. In fact, the Panama landlords are, some of them, so unreasonable in their charges that there is danger of their driving business from Panama proper into the neighboring Zone. The United States, in securing offices for its legation, is as much a sufferer in this respect as any merchant or professional man.

CLIMATE AND PUBLIC HEALTH.

The disagreeable and unhealthy features of the Panama climate have been ridiculously overrated by those who have studied the situation superficially while passing across the Isthmus, or who have desired to create a sensation. Members of the Commission who are familiar with other tropical countries find it much cooler and healthier here than in corresponding latitudes of other lands, and my experience confirms theirs. The insanitary conditions existing in the days of the old Panama Canal Company might have characterized the construction of a similar work in any other portion of the world and are responsible for many of the terrible tales that are now told in the American press.

As a matter of fact, there has not been during the months of July and August a single uncomfortable night for sleeping, while the average days have not been hotter than those of New York and Washington. There has been hardly a single instance of serious illness among the considerable number of young men employed here in work connected with the canal, while the percentage of sickness among the larger group of laborers employed at Culebra is not greater than among those engaged in similar excavating work in the United States. Among the 400 marines located halfway across the Isthmus, at Empire, there has not been a single death from local diseases, while the percentage of those in the hospital is not larger than would be found at the average post in the United States. There has not been a single case of yellow fever for over a month, and there is less malaria than is often found in sections of the United States. The worst portions of the cities of Panama and Colon are much cleaner and more wholesome than the slums of our North American cities, and are far ahead of the average Asiatic city located in the Tropics.

My corrections of overdrawn criticisms of the Panama climate must not, however, be interpreted as meaning that there are not unfavorable features here. They exist, as they do in all tropical lands, and of course the conditions of maintaining health and enjoying life are not by any means so favorable as those in the average temperate regions. When the present able sanitary corps which has charge of bettering the health conditions in the Isthmus has carried out its plans for the improvement of the canal strip and the cities of Panama and Colon, there is no reason why the Isthmus should not be one of the healthiest places in the world.

JOHN BARRETT, *Minister*.

PANAMA, PANAMA, *August 23, 1904*.

FREIGHT RATES TO SOUTH AFRICA.

(*From United States Consul Halstead, Birmingham, England.*)

A Birmingham merchant writes to the Birmingham Daily Post calling attention to a recent development in the matter of the rates charged by the British ship combination for freight from British ports and from New York to South Africa. This is an advertisement of the Prince Line offering "to take freight from England to South Africa at American rates, but for conveyance via New York." The rest of his communication reads as follows:

"Surely this is the climax, and it is to be hoped foreshadows that the Prince Line will soon have the courage to apply these rates without the above-mentioned stipulation.

"Does it not seem absurd that an English company is only able to offer low rates for goods to an English colony if shipped via a foreign port and if some thousands of miles are added to the normal voyage?

"Whether the Prince Line, if it openly competes, will be more fortunate than the Houston Line is, however, doubtful, for the rebate system remains as a stumbling block. To get the rebate system declared illegal by our courts seems the only way relief can be attained, and I trust that this way will be pursued, as the continued favoring of United States exports is becoming more and more dangerous to our trade."

In the June number of the Birmingham Chamber of Commerce Journal the following instances of discrimination favoring New York in the South African conference rates were given:

Rates to Cape Town and Algoa Bay.

	British rates.	American rates.
Iron bedsteads, bolts and nuts, iron chains, general hardware, tinware, tools	$7.60	$3.65
Brass goods	10.34	3.65
Spades, shovels, etc	6.08	3.65
Galvanized iron	4.86	3.65
Bar iron	5.47	3.65

Rates to Natal and East London.

	British rates.		American rates.
	Natal.	East London.	
Iron bedsteads, bolts and nuts, iron chains, general hardware, tinware, tools	$9.73	$9.42	$4.26
Brass goods	12.77	11.86	4.26
Spades, shovels, etc	7.90	7.90	4.26
Galvanized iron	6.08	6.08	4.26
Bar iron	7.30	7.30	4.26

MARSHAL HALSTEAD, *Consul.*

BIRMINGHAM, ENGLAND, *August 26, 1904.*

CANTON TEAS.

(*From United States Consul-General McWade, Canton, China.*)

TRADE IN CANTON TEAS.

The trade in Canton teas with the United States is now at a remarkably low ebb, but the native trade in scented tea (Pou-chong) is large and is constantly growing. As is usual with purely native trade, no reliable statistics are forthcoming from the customs or likin officials. This tea is prepared here and goes wherever the Chinaman, particularly the native of southern China, is to be found, so it will now doubtless gain a new market in South Africa. It ought to find a good market in the United States, particularly among those who relish really good tea.

The trade with Europe has been declining for years and has now reached very small proportions. The export last year hardly exceeded 2,250,000 pounds of all kinds, while this year probably not more than 1,750,000 pounds will be wanted. The causes for this decline in the trade are to be found in the decreased demand for "scented caper" in England (strange to say, the only country that uses this kind of tea), the preference given to Ceylon growths, the recent light deterioration in quality here, and the yearly increasing cost. The native consumption and demand for export are now so important that foreigners get the leaf only if they will pay higher prices than the native exporter, and this is becoming yearly more difficult for them to do.

CONDITIONS IN THE CANTON MARKET.

For the information of grocers generally, and of those engaged in the tea trade at home, I note actual market conditions here, as follows:

Macao congou. There is none obtainable now, there being no stocks. About 1,200 boxes have been booked this season, at prices ranging from $11.24 to $15.12 a picul (133⅓ pounds).

Hoyune congous. These have had a fair amount of attention; 3,100 boxes have been settled at $15.12 to $16.06 a picul for the fine grades and $10.08 to $10.71 for the medium grades.

Pekoes. These have been in request and have realized $17.64 to $22.68 a picul. About 1,200 boxes have been booked, but the prices are considered very high.

Capers. Twenty-eight thousand boxes of capers have been booked at $18.90 to $22.68 for finest grades, $16.38 to $18.27 for fine grades, $10.71 to $14.49 for medium grades, and $9.45 to $10.08 for common grades. Fine and finest grades of capers are considered very dear, while the prices for common and medium grades are reasonable.

DEGENERACY OF THE PUBLIC TASTE IN TEA.

It is strange how the public taste in teas has of late degenerated almost everywhere, except among the high-class natives in China, so that a tea with an almost black color; that will stand a lot of hot water the second time, has actually become a favorite. Its color, strength, and rough taste, the last due to an excess of tannin, are its chief characteristics, and are actually often given as the reasons for preferring it to a perfect tea that is amber-like in color and delicate in aroma. The former is the tea that has to be drowned in milk or cream and disguised with sugar.

BLENDS.

In blending teas the tea-tasting expert has at times to use milk, for there are teas that refuse to mix kindly with milk, and in that case another sort has to be added to obviate that difficulty. Blended or mixed teas have become popular and are largely advertised by the leading wholesale grocers in the United States, and instances are doubtlessly frequent when our consuls in tea-growing countries have recommended in their trade reports certain teas for blending purposes. These blends are as a rule much cheaper than the unmixed article.

PROPER TEA INFUSION.

Tea when properly prepared for use is an infusion, not a decoction. I have found that the proper way to "infuse" tea—or to "brew" it, as it is sometimes styled—is to follow the four following concise rules prepared by an expert, Mr. Thomas A. Phelan, president of the National Tea Association of the United States:

1. Let the water be fresh from the faucet.
2. Let the water boil furiously five minutes before using.
3. Let the water remain on the leaves not less than seven nor more than ten minutes, and then be poured off into another heated vessel.
4. Use one full teaspoonful of tea for every cup of water; or, if the resulting drink is too strong, reduce the quantity.

Those rules are easy to remember and equally easy to follow. If every housekeeper will observe them there will soon be a noticeably increased demand for the daintiest, purest, and cheapest beverage in the world. I should add that, after proper infusion, the tea ought to be drunk and not allowed to stew or simmer in the teapot.

QUALITIES OF THE SEVERAL TEAS.

Here are a few facts in connection with the different teas: The teas of Ceylon and India and many Japan teas, when cold, become sirupy, and cloud over as if milk had been poured into the cups. China tea never clouds. After teas of the first-named class have stood some length of time, say about an hour, a ring forms on the inside of the cup at the top of the liquid. That is the result of tannin, a bitter astringent, which is rarely found in real China tea.

AMERICAN CUSTOMS INSPECTION.

It is a pleasant thing for all tea users, present or prospective, to bear in mind that in the United States all teas are carefully examined by our customs authorities, and, in addition to being thoroughly tested for adulteration, they must reach a certain standard of quality. The teas that we reject usually find their way to England and other countries, where, after undergoing various blending processes, they supply the foreign consumer with a very cheap but vile tea.

TEA DEALERS IN CHINA.

The following are among the leading responsible tea-trading firms in this locality: Canton—Rowe & Co.; Deacon & Co.; Herbert Dent

& Co.; Arnhold, Karberg & Co. Macao—F. O. Seaton; Herbert Dent & Co. Luk-po, a port of call on the West River, grows considerable tea, which finds especial favor among the wealthy Chinese in the Straits Settlements. In previous reports I have recommended this tea for blending purposes. Its prices per picul (133⅓ pounds) are—good, $5.67 to $6.30; common, $3.15 to $3.78. The tea dealers of this particular section live in Wuchau. They are: Hun Lung, in Sze Fong street; Lung Cheung Pontoon, in Fu Ho street; Yan Lung, in Kon Fong street.

ROBERT M. McWADE, *Consul-General.*

CANTON, CHINA, *July 25, 1904.*

AMERICAN SHOES IN GERMANY.

(*From United States Consul Brittain, Kehl, Germany.*)

Within the past year the sale of American shoes has considerably increased in the city of Strassburg, but in the smaller cities and towns in the consular district one seldom finds an American shoe for sale. One reason for this is that the masses in the rural districts have little desire for the latest styles in shoes, and rather resent innovations in the line of dress. There are, however, many persons in the smaller cities and towns who are always ready to adopt comfortable shapes and new styles in footwear when the goods are placed on sale in a businesslike manner.

In Strassburg, which is the trade center of the district, two or three stores carry American shoes in connection with large lines of German shoes, but the American shoes are at a disadvantage because the stock is small. One store carries a line of American men's shoes which retail at $6.42 and of women's shoes which retail at $5.71. When I asked the merchant why he did not carry a line which would meet the popular demand, he replied, "But I want to sell German shoes, too."

If some of the American manufacturers of popular-priced shoes were to rent a room on one of the leading streets in Strassburg and place on sale a full line of neat, attractive goods, such as sell in the United States for $3.50 a pair, there is no reason why the enterprise should not meet with as much success as similar enterprises in other German cities, and the public would not be obliged to purchase German-made shoes marked "American shape."

A half-hearted effort to introduce American shoes will never meet with the success the goods deserve. Such methods never won the trade in England, nor will they in Germany. The American shoe manufacturer has never entered this market with the determination to win, and there is no reason why he should not succeed, as our shoes are admired, and the German duty on shoes is very low.

JOSEPH I. BRITTAIN, *Consul.*

KEHL, GERMANY, *August 24, 1904.*

NEW CANADIAN CUSTOMS REGULATIONS.

Under date of September 9, 1904, United States Consul Charles A. McCullough, St. Stephen, New Brunswick, transmits the following circular, dated August 22, 1904, issued by the customs department at Ottawa, for the information of exporters to Canada:

CIRCULAR TO EXPORTERS CONCERNING SHIPMENTS TO CANADA.

The following summary from the customs laws and regulations concerning Canadian customs requirements in respect of goods exported to Canada is published for the information of exporters and others concerned.

Special attention is directed to the following new provisions in the regulations in effect October 1, 1904, viz:

(*a*) Duplicate invoices on approved form required for customs entry.

(*b*) New certificate on invoice (Form M instead of Form J).

(*c*) New declaration on invoices of goods shipped on consignment (Form N instead of Form 6).

NOTE.—The certificates on invoices for entry under the preferential tariff as heretofore prescribed are continued in force, but such invoices (for preferential entry) must also bear certificate, Form M, in the case of goods sold by the exporter prior to shipment, and declaration, Form N, in the case of goods shipped to Canada on consignment.

"The certificate, Form M, takes the place of the old certificate, Form J, on invoices of all goods sold prior to shipment to Canada (from October 1, 1904.)

The declaration, Form N, takes the place of the old declaration, Form 6 (which is repealed from October 1, 1904) on invoices of goods shipped on consignment.

JOHN MCDOUGALD, *Commissioner of Customs.*

DEPARTMENT OF CUSTOMS, *Ottawa, August 22, 1904.*

SUMMARY FROM THE REGULATIONS AND CUSTOMS LAWS OF CANADA.

INVOICES TO SHOW CONTENTS OF EACH PACKAGE.

It is required that invoices from exporters to importers in Canada shall show the marks and numbers on the packages, in such a manner as to indicate truly the quantities and values of the articles comprised in each exportation package, the packages to be legibly marked and numbered on the outside when of such a character as to enable such marks and the numbers to be placed thereon.

If in any package any goods are inclosed which are not included in the invoice of such package, the inclosure (to avoid seizure) should be noted on the invoice of the outside package containing the inclosure, thus, "3 parcels inclosed" (or as the case may be).

Goods certified for entry under the British preferential tariff shall be invoiced and packed separately from other goods.

INSTRUCTIONS AS TO WAYBILLS AND MARKS AND NUMBERS ON PACKAGES.

In order to facilitate the customs entry of goods imported from all countries (and especially from the United States) into Canada, shippers are advised that the waybills should show full information regarding name and address of consignee, marks and numbers of packages and description of packages.

Where goods are shipped in bulk, the number of pieces, bundles, bushels, etc., is required.

In the case of agricultural implements, the number and description of each class of implement is to be stated, except when packed in cases, crates, or other containers, when the number and description of such packages should be stated.

It is very important that waybills and bills of lading show the required information, in order that the "carrier" may furnish the reports required to be made at the custom-house and prepare manifests for transporting the goods in bond.

VALUATION FOR CUSTOMS DUTY.

Customs act, section 58. Whenever any duty ad valorem is imposed on any goods imported into Canada, the value for duty shall be the fair market value thereof, when sold for home consumption, in the principal markets of the country whence and at the time when the same were exported directly to Canada. (46 V., c. 12, s. 68.)

Customs act, section 59. Such market value shall be the fair market value of such goods in the usual and ordinary commercial acceptation of the term at the usual and ordinary credit and not the cash value of such goods, except in cases in which the article imported is, by universal usage, considered and known to be a cash article, and so bona fide paid for in all transactions in relation to such article; and all invoices representing cash values, except in the special cases herein referred to, shall be subject to such additions as to the collector or appraiser of the port at which they are presented appear just and reasonable, to bring up the amount to the true and fair market value, as required by this section. (46 V, c. 12, s. 69.)

VALUE FOR DUTY UNDER SPECIAL CONDITIONS.

Customs act, section 64. The fair market value of goods shall be taken to include the amount of any drawback which has been allowed by the government of any other country, also the amount of consideration or money value of any special arrangement between the exporter and the importer or between any persons interested therein because of the exportation or intended exportation of such goods, or the right to territorial limits for the sale or use thereof, and also the amount or money value of any so-called royalty, rent, or charge for use of any machine or goods of any description which the seller or proprietor does or would usually charge thereon when the same are sold or leased or rented for use in the country whence they have been exported to Canada. When the amount of such drawback, consideration, money value, royalty, rent, or charge for use has been deducted from the value of such goods, on the face of the invoice under which entry is to be made, or is not shown thereon, the collector of customs or proper officer shall add the amount of such deduction, drawback, consideration, money value, royalty, rent, or charge for use, and cause to be paid the lawful duty thereon. (52 V., c. 14, s. 6.)

Customs act, section 65. No deduction of any kind shall be allowed from the value of any goods imported into Canada, because of any drawback paid or to be paid thereon, or because of any special arrangement between the seller and purchaser having reference to the exportation of such goods, or the exclusive right to territorial limits for the sale thereof, or because of any royalty payable upon patent rights, but not payable when goods are purchased for exportation, or on account of any other consideration by which a special reduction in price might or could be obtained: *Provided*, That nothing herein shall be understood to apply to general fluctuations of market values. (46 V., c. 12, s. 71.)

2. Whenever goods are imported into Canada under such circumstances or condition as to render it difficult to determine the value thereof for duty, either because such goods are not sold for use or consumption in the country of production, or because a lease of such goods or the right of using the same is sold or given, but not the right of property therein, or because such goods having a royalty imposed thereon, the royalty is uncertain or is not, from other causes, a reliable means of estimating the value of the goods, or because such goods are usually or exclusively sold by or to agents, or by subscription, or are sold or imported in or under any other unusual or peculiar manner or conditions—of all which matters the minister of customs shall be sole judge—the minister of customs may determine the value for duty of such goods; and the value so determined shall, until otherwise provided, be the value upon which the duty on such goods shall be computed and levied. (51 V., c. 14, s. 15.)

DUTIABLE CHARGES.

Customs act, section 66. No deduction from the value of goods contained in any invoice shall be allowed on account of the assumed value of any package or packages where no charge for such package or packages has been made in such invoice; and where such charge is made the customs officer shall see that the charge is fair and reasonable and represents no more than the original cost thereof. (46 V., c. 12, s. 72.)

Customs act, section 67. No deduction from the value of goods in any invoice shall be made on account of charges for packing or for straw, twine, cord, paper, cording, wiring, or cutting, or for any expense incurred or said to have been incurred in the preparation and packing of goods for shipment, and all such charges and expenses shall in all cases be included as part of the value for duty. (46 V., c. 12, s. 73.)

NEW REGULATIONS.

INVOICES, CERTIFICATES, AND DECLARATIONS.

On and after October 1, 1904, invoices in duplicate properly certified shall be delivered at the custom-house with the bills of entry for all imported goods.

Every such invoice shall contain a sufficient and correct description of the goods, and in respect of goods sold by the exporter shall show in one column the actual price at which the articles have been sold to the importer, and in a separate column the fair market value of each article as sold for home consumption in the country of export.

The "price" and "value" of the goods in every case aforesaid are to be stated as in condition packed ready for shipment at the time when and at the place whence the goods have been exported directly to Canada.

When the value of goods for duty purposes is determined by the minister of customs, under the provisions of the customs act, by reason of the goods being exported or imported under unusual conditions, the value so determined shall be held to be the fair market value thereof.

The following certificate of value is prescribed for invoices of goods sold and exported to Canada, to be signed by the exporter or by a partner, official, or employee of the exporter having a knowledge of the facts certified to, and to be written, printed, or stamped on the invoice.

Form M.

I, the undersigned, do hereby certify as follows:

(1) That I am the[a] ——— exporter of the goods in the within invoice mentioned or described:

(2) That the said invoice is in all respects correct and true.

(3) That the said invoice contains a true and full statement showing the price actually paid or to be paid for the said goods, the actual quantity thereof, and all charges thereon.

(4) That the said invoice also exhibits the fair market value of the said goods at the time and place of their direct exportation to Canada and as when sold at the same time and place in like quantity and condition for home consumption, in the principal markets of the country whence exported directly to Canada, without any discount or deduction for cash, or on account of any drawback or bounty, or on account of any royalty actually payable thereon or payable thereon when sold for home consumption, but not payable when exported, or on account of the exportation thereof or for any special consideration whatever.

(5) That no different invoice of the goods mentioned in said invoice has been or will be furnished to anyone; and

(6) That no arrangement or understanding affecting the purchase price of the said goods has been or will be made or entered into between the said exporter and purchaser or by anyone on behalf of either of them, either by way of discount, rebate, salary, compensation, or in any manner whatsoever other than as shown in the said invoice.

Dated at ——— this ——— day of ———, 19—.

(Signature) —————————.

The following declaration is prescribed to be made by the foreign owner or exporter or his agent in the country whence the goods are exported, in regard to goods shipped to Canada on consignment without sale by the exporter prior to shipment, to be attested to in British countries before a collector of customs, notary public, or other official authorized to administer oaths, and in other countries before a British or other consul, notary public, or other official authorized to administer oaths.

Form N.

I, [b] ———, of ——— [c], do solemnly and truly declare as follows:

(1) That I am [d] ——— the owner of the goods shipped on consignment to [e]———, at ———, in Canada, and described in the annexed invoice:

(2) That the said invoice is a complete and true invoice of all the goods included in this shipment;

(3) That the said goods are properly inscribed in the said invoice;

(4) That there is included and specified in the said invoice the true value of all

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[a] Insert the word partner, manager, or chief clerk, or principal official, giving rank as the case may be.

[b] Name of party subscribing to this declaration.

[c] City or town and country.

[d] A member of the firm of ——— giving the name of the firm when the shipment is made by a firm or an officer, director, or manager of ———, giving the name of the corporation when the shipment is made by a corporation.

[e] Name of consignee.

cartons, cases, crates, boxes, and coverings of any kind, and all charges and expenses incident to placing the said goods in condition packed ready for shipment to Canada;

(5) That none of the said goods have been sold by or on behalf of the owner aforesaid to any person, firm, or corporation in Canada;

(6) That the said invoice contains a just and faithful valuation of such goods at their fair market value as sold for home consumption in the principal markets of the country whence the same are exported directly to Canada, and that such fair market value is the price at which the said goods are freely offered for sale in like quantity and condition by me or by dealers therein to purchasers in said markets in the ordinary course of trade at the usual credit, without any discount or deduction for cash, or on account of any drawback or bounty, or on account of any royalty actually payable thereon, or payable thereon when sold for home consumption, but not payable when exported, or on account of the exportation thereof, or any special consideration whatever;

(7) That if the value for duty of any goods as stated in this invoice is other than the value thereof as above specified, such value for duty has, to the best of my knowledge and belief, been fixed and determined under the authority of the customs act at the value stated in the said invoice; and

(8) That no different invoice or account thereof has been or will be furnished to anyone by me or on my behalf.

Declared at —— this —— day of ——, 19—, before me ————.
(Signature) ————————.

The following forms of invoices, marked (1-M) and (2-N), are approved.

Form (1-M).

Invoice of goods sold by the exporter prior to their shipment to Canada.

(Place and date) ————————.

Invoice of ——, purchased by ——, of ——, from ——, of ——, to be shipped per ——.

Marks and numbers on packages.	Quantity and description of goods.	Fair market value as sold for home consumption.	Selling price to the purchaser in Canada.	
			@	Amount.

(Signature of seller or agent) ————————.

Form (2-N).

Invoice of goods shipped to Canada on consignment without sale by the exporter prior to shipment.

(Place and date) ————————.

Invoice of ——, consigned by ——, of ——, to ——, of ——, to be shipped per ——.

Marks and numbers on packages.	Quantity and description of goods.	Fair market value as sold for home consumption.	
		@	Amount.

(Signature of owner or agent) ————————.

Surtax certificates.

(Same as heretofore.)

Further certificates from exporters (in all countries) prescribed to be written, printed, or stamped and subscribed on invoices of goods exported to Canada, except such goods as are admitted under the British preferential tariff in Canada:

(L.)

"Whereas German goods are subject to surtax in Canada, I certify that none of the articles included in this invoice are the produce or manufacture of Germany, and that the chief value of none of said articles was produced in Germany, save and except all articles opposite which the word 'Germany' is written on this invoice."

(Signature) ————————, *Exporter.*

Further certificate from exporters prescribed to be written, printed, or stamped on all invoices of goods for entry under the British preferential tariff in Canada, and to be subscribed by the persons heretofore authorized to make and sign "preferential certificates."

(K.)

"Whereas German goods are subject to a surtax in Canada, I certify that the chief value of none of the articles included in this invoice was produced in Germany."

(Signature) ————————, *Exporter.*

The above certificate K may be added as the last clause in the certificates heretofore authorized for the British preferential tariff in Canada, or may be certified to separately on the invoice.

The above certificate L may be added as the last clause in the certificate M, or may be certified to separately on the invoice and declaration N.

PRIZE FOR THE DENATURATION OF SPIRIT.

(*From United States Vice and Deputy Consul-General Mueller, St. Petersburg, Russia.*)

I transmit herewith a document issued by the minister of finance containing the conditions of a competition for the discovery of any substance or substances for the denaturation of spirit. This competition is international, and the Russian Government invites any person to take part in it, offering a premium of 50,000 rubles ($25,750) to the successful competitor.

JOHN MUELLER, *Vice and Deputy Consul-General.*

ST. PETERSBURG, RUSSIA, *September 2, 1904.*

CONDITIONS OF COMPETITION FOR THE DISCOVERY OF ANY SUBSTANCE OR SUBSTANCES FOR THE DENATURATION OF SPIRIT.

Denaturated spirit, free from excise duty, has a wide application in small enterprises of any industrial, chemical, and technical nature, is largely employed as an agent of energy for heating, lighting, and motor power in town and country undertakings, in agricultural, railroad, and mining industries, and in the marine, and, finally, is widely distributed in the form of a useful combustible in the household. Of course it is the denaturated spirit, which circulates freely without the control of the excise office, that is most in demand. Under these conditions it is indispensable that such denaturated spirit should serve only the purpose intended, and be fully safeguarded against even the possibility of being converted into an alcoholic beverage; it should be rendered completely unfit for drinking both directly and after renaturation, at the same time retaining its capacity for being applied to technical use.

It will be seen, therefore, how great the importance of denaturating substances is, as means which would allow, through agriculture, the utilization of sun energy, accumulated in spirit, for purposes of building up technical and industrial wealth.

The materials at present used for the denaturation of spirit in the countries of western Europe, such as wood alcohol, containing acetone and other products of the distillation of wood, bases of pyridine, keton oil, coal tar,[a] do not give complete satisfaction. Some of them possess denaturating properties only in a very weak degree, and can be used only in great quantities; others, on account of their chemical composition, have only a limited circle of utility, excluding thereby a large number of technical industries; others do not sufficiently safeguard the spirit from being reconverted, while others, again, cost too much.

In consequence of the aforesaid, and in view of the immense importance of denaturating substances, the Russian ministry of finance has opened an international competition (concours) offering a premium of 50,000 rubles to anyone, be he a Russian or a foreign subject, who will find a denaturating substance which fulfills in every respect the following requirements:

ARTICLE I. The denaturating substance must not modify the nature of the spirit to such a degree as to render it unfit to be employed for technical purposes.

ART. II. The denaturating substance must not include any elements producing caustic products, such as sulphur, phosphorus, arsenic, chlorine.

ART. III. The denaturating substance must not contain products which after the evaporation of the spirit or after burning out leaves any solid residue, mineral or organic, which might be hurtful to the wick or damage the metallic parts of motors.

ART. IV. It must not be of a poisonous nature.

ART. V. The denaturating substance must render the spirit completely unfit for direct consumption as an alcoholic drink.

ART. VI. It should not spread an unpleasant or suffocating smell which would render the denaturated spirit inconvenient or injurious in the household, in small industries, or in large manufactories.

ART. VII. The substance must possess denaturating qualities of the highest degree, so as to allow of its being employed in small quantities; must be of so low a price that the cost of the denaturation will but insensibly affect the sale price of spirit.

ART. VIII. The presence of the denaturating substance must be easily detected by a sufficiently sensitive process.

ART. IX. The separation of the denaturating substance from the spirit, in view of possible abuses with the renaturated spirit, should entail so great a difficulty and expense as would render the renaturation altogether disadvantageous. The quantity of spirit completely renaturated, by the aid of all the fraudulent means existing, both chemical and physical, should form but a small part of the spirit subjected to renaturation, so that the greater portion would remain unfit for consumption, and that it would be always possible to prove in the product obtained, or in the drinks prepared from it, the presence of the denaturating substance.

The term for presenting denaturating substances to the contours is fixed for July, 1905. Written memoranda of the results of research, describing denaturating substances, their component parts, and the cost of production on a large scale—names of authors to be sent in sealed envelope, bearing a device—should be submitted to the chief board of taxes and government sale of drinks, accompanied by 10 kilograms of the substances discovered.

The denaturating substances sent will be submitted for investigation as to their denaturating properties and the processes of renaturation in the three laboratories of the ministry of finance, Odessa, St. Petersburg, and Moscow.

The results of these investigations will be communicated to the commission of the concours, appointed by the minister of finance, which after examining the results obtained will decide as to the awarding of the premium of 50,000 rubles. From this decision no appeal can be made. The premium of 50,000 rubles will be awarded for those denaturating substances which have been acknowledged as fulfilling all the requirements proposed.

In case two competitors should solve the problem in a manner equally satisfactory, the premium may be divided between them conformably to the merits of the denaturating substances submitted by them.

The process of denaturation which has gained the premium becomes the property of the treasury.

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[a] For the so-called incomplete denaturation, when delivering spirit under strict control, turpentine, camphor, benzole, animal oils, and many other products are employed.

ENGINEERING AND TRADE OPPORTUNITIES.

(From United States Vice and Deputy Consul-General Murphy, Frankfort, Germany.)

ELECTRIC INSTALLATIONS.

Spain.—The Direccion General de Obras Publicas, Madrid, has granted a concession for building a tramway from Ubeda to Santuario de la Hiedra, Spain.

The towns of Arenas de San Pedro and Pueblonuero del Terrible y Peñarroya are to receive electric-lighting plants.

The Compañia General de Tranvias of Barcelona will construct an electric tramway from Sarria to Ballvidera.

The Direccion de Correos y Telegrafos, Madrid, will receive bids for furnishing 25,000 porcelain insulators.

Jamaica.—An electric-lighting plant is to be installed at St. Anns Bay.

Afghanistan.—Kabul, the capital of Afghanistan, is to be lighted with electricity.

Switzerland.—The town of Nyon, on Lake Geneva, will soon introduce electric lighting.

RAILWAYS.

Brazil.—The Brazilian Government is about to connect the port of Sao Francisco with Argentina by means of a railway line about 620 miles in length.

Chile.—The Government of Chile has granted a concession for building a railroad from Tirúa to Lumaco, Traigneu, and Victoria, and has also approved a project for constructing a railroad from Capiapo to Vallenar.

The ministry for industries and public works at Santiago has granted a concession for the building of a railroad from Parral-Canquénes to Coelemu and a branch road to Quirihue.

Colombia.—The Colombian Government has granted a concession for the building of a railway line from Rio Hacha to Valledupar. Construction materials for use on this road will be granted free entry.

India.—The Southern Maharatta Railway Company, whose main office is at 46 Queen Anns Gate, London, S. W., England, will add 250 freight cars and 6 passenger cars to its rolling stock.

The Bengal-Ragpur Railway Company (office Gresham House, Old Broad street, London, England) will build a railroad line to connect the coal fields in Pench Valley with the station Chindwara on the Satpura Railway. The estimated cost is 1,652,500 rupees ($535,248).

HARBOR IMPROVEMENTS.

Netherlands.—Harbor improvements to cost $157,600 are to be made at Haarlem. Particulars can be had of Gebr. van Cleef, The Hague, Netherlands.

Roumania.—In improving the harbor of Giurgiu $160,000 is to be expended.

WATERWORKS.

British Columbia.—The city of Victoria will receive tenders for the delivery of 12,000 feet of cast-iron water pipe. Address W. W. Northcott, City Hall, Victoria, British Columbia.

Bulgaria.—Prizes of 12,000, 8,000, and 5,000 francs ($2,316, $1,544, and $965) are to be awarded for the three best plans for drainage and waterworks for the city of Varna.

Brazil.—The municipality of Nova Friburgo, near Rio de Janeiro, is open for proposals for erecting waterworks and an electric-light plant, and for supplying the town with a sewerage system.

BRIDGES.

Chile.—The Director de Obras Publicas in Santiago will receive proposals for building a bridge over the Laguna de los Patos in the Province of Arauco.

Belgium.—Two iron railway bridges over the Dyle are to be built at Malines, at an estimated cost of $72,532, and $13,500 are to be expended for the ironwork of the upper part of a canal bridge at Bruges.

STREET PAVING.

Russia.—The municipality of Odessa will receive proposals for the laying of asphalt pavements in the streets of that city.

GEORGE H. MURPHY, *Vice and Deputy Consul-General.*

FRANKFORT, GERMANY, *September 3, 1904.*

PROPOSED RAILWAYS IN PERU.

Under date of August 19, 1904, United States Minister Dudley, Lima, Peru, transmits the following translation of a supreme decree of the Peruvian Government of August 16, appointing engineering commissions to make the survey of three proposed railroad routes from the Cordillera to connect with the great river systems of the interior, and providing for their expenses:

"In view of the resolution of the consulting commission upon the railway to the eastern regions, adopted at its meeting on August 13, and in accordance with the resolution of August 9, it is resolved:

"To approve the aforesaid resolution, and consequently the three commissions which are to make the surveys and preliminary studies of the routes set forth in the above-mentioned resolution of August 9, are hereby organized in the following manner: For the first commission, to the rivers Huallaga and Pachitea, chief engineer, Don I. Barrada y Bustamante; second engineer, Don L. Vantosse. For the second commission, to the rivers Huallaga and Pachitea, chief engineer, Don I. G. Voto Vernales; second engineer, Don C. Oyague y Calderon. For the third commission, to the mountain range of Yanachaga, chief engineer, Don A. Tamayo; second engineer, Don R. Navala. The chief engineers will receive a monthly salary of £40 [$194.66], and the second engineers one of £30 [$146].

"To likewise sanction the total outlay entailed by each one of the said commissions, amounting to the sum of £1,110 [$5,401.82] to be passed to the debit of item No. 112 of the additional sheet of the section of the general budget now in force.

"To approve the period fixed for the different labors, which is to be four months for those performed in the said districts and one month for the plans and preparing of the reports."

OVERPRODUCTION OF CEMENT IN GERMANY.

(*From Revue du Commerce Exterieur, Paris, France, August 27, 1904.*)

FORMATION OF TRUST.

The manufacture of cement is one of the best developed industries in Germany. During the last ten years a large number of factories have been erected, so many, indeed, that an overproduction begins to manifest itself, followed by ruinous competition. This phenomenon may be observed in other branches of German industry, also. To avoid the disastrous effects of such competition the principal manufacturers of southern Germany resolved some years ago to create a syndicate for the purpose of regulating production and prices. According to the arrangement thus made the participants obliged themselves to hinder as far as it was in their power the erection of new mills. The negotiations that led up to the establishment of the syndicate were long and painful. By means of the new arrangement the producers of cement hoped to be able to supply the demand and to get remunerative prices.

OPPOSITION TO TRUST.

Considerable disappointment arose when it was learned that certain organizations had been created in the section of country covered by the syndicate for the purpose of establishing new cement factories. These organizations claim as a justification for their action that the time was favorable for an increase in production because of the many new works already projected, particularly the Mittelland Canal. It is precisely this last point that the manufacturers of cement are objecting to, and their declarations are interesting and instructive and will help one to understand the present condition of this industry. They call attention to the fact that in regard to all the new cement factories erected in the last four or five years the same deceitful promises were made to the public. The truth seems to be that almost all of the cement factories conclude their balance sheets with loss. This condition of things shows no evidence of change, nothwithstanding the increased consumption due to the erection of public works, to which attention has been called.

Take, for example, the Mittelland Canal. It is estimated that when it is in full course of construction it will not absorb more than one-half of 1 per cent of the country's total production of cement. The effect upon the general activity will therefore be very slight.

IMPENDING STRUGGLE.

After the agreement was reached by the cement manufacturers one-fourth of the factories were closed, and yet those which are still running are not able to sell more than one-half of their product. Consumption increases so slowly that these factories are not able to count on constant employment and regular production for the next ten years. In this part of Germany only those have been able to face the crisis and to continue the exploitation of their work which have had considerable capital and which, because of their magnitude, have been able to produce cheaper. It is easy to foresee that the manufacturers who have joined the syndicate and who have closed up seven of their mills to guard against overproduction will not sit down tranquilly in the face of the new factories that have just been opened. As a matter of fact, the erection of the new mills is destined to give rise to a new struggle in which the competition will be frightful. The prices fixed by the syndicate, however, are far from giving satisfaction to buyers, since capitalists think that they will be able to establish profitable competition. The result of this rivalry will be a new drop in prices and the presentation of conditions particularly attractive and favorable to foreign purchasers.

When one sees an annual increase in the foreign trade of Germany and notes the enormous figures which are attained at present, one can not realize the sacrifices and losses by which this progress has been made. This touches a great many German products. Take, for example, iron. It is necessary to consider more than the quantities exported; it is necessary to keep in mind the benefits realized. Now, as a matter of fact, the benefit amounts to practically nothing. Many houses work at a loss, because they desire above all things to avoid a break with their consumers, gained after so much difficulty, hoping always for better conditions.

GERMAN VERSUS FRENCH CEMENT.

Concerning cement, the question that interests us French is the drop in prices which may lead to the invasion of the German article. Our exportation to Germany of this article is practically nothing. Some efforts have been made recently to introduce into Württemberg the so-called Roman cement, manufactured by French producers. It is a cement which is very much in favor in France, but the Germans are hostile to it and continue to use Portland cement exclusively in spite of its high price. It is perhaps necessary to add that foreign cement can be used in Germany only after it has been tested, by the establishment erected for that purpose, with regard to its resistance to pressure, power of adhesion, etc. Finally, the Portland cement costs at the factory about 20 cents for 100 pounds. Under these conditions the struggle appears difficult to most of our manufacturers, who would have to pay in addition the duties and expenses of transportation.

SIMPLIFICATION OF PASSENGER SYSTEM ON ENGLISH RAILWAYS.

(*From United States Consul Halstead, Birmingham, England.*)

There is a story current in the newspapers that some of the railways are seriously considering the simplification of the class passenger system which has prevailed in this country. The Midland Railway, which long ago abandoned its second-class passenger service, furnishing trains with only first-class and third-class coaches, is credited, though no authoritative announcement seems to have been made, with contemplating the dropping of the first-class service, which would leave a passenger service of only one class. The Birmingham Post believes that the simplification of the system is a much more probable solution of the problem than the abolition of first-class carriages, which "could hardly fail to provoke a great outcry, and cause a vast amount of indignation and discomfort in a wealthy country like this, where so many people are willing to pay for plenty of elbow room and exclusiveness."

It is argued that if the Midland, for example, changed its Scotch Express into single-class corridor (vestibule) trains it would capture so large a proportion of the third-class traffic carried by the competing lines that the latter would be forced to adopt the same system in self-defense. A leading official of one of the great railway lines to the north of Britain, in a reported conversation with a Birmingham Daily Despatch representative, said that the substitution of one class for the present first, second, and third would be regarded by railway companies with the utmost favor. He pointed out that train costs, both working and construction, would be reduced, and the work of ticket offices would be much simplified. It is estimated by the London Times that at present first-class passengers constitute little more than 2 per cent of all the passengers, while first-class carriages (compartments) represent 25 per cent of the weight of the average train and about 30 per cent of the cost of working, while the money received for first-class fares represents less than 4 per cent of the whole passenger receipts. It is suggested by the Birmingham Daily Post that "to stem the decline of the first-class carriage traffic the first-class fares should be materially reduced. That would seem to be a reasonable modification of the system, encouraging the travel of the classes who now travel first, and inducing second-class passengers to pay the difference to secure superior accommodation, and that might mean the gradual extinction of the class service."

I do not know how the several class fares compare on different lines, but the first-class fare from Birmingham to London, a distance of 113 miles on the London and Northwestern Railway, is 17s. 4d. ($4.22); the second-class fare is 11s. 10d. ($2.86), and the third-class fare is 9s. 5d. ($2.29). A number of years ago the London and Northwestern Railway reduced the second-class fares materially, because so few people were traveling second-class, and their example has been followed by some of the other railroads. Second-class carriages to London seem now generally as well filled as third-class carriages and often more crowded.

MARSHAL HALSTEAD, *Consul.*

BIRMINGHAM, ENGLAND, *September 5, 1904.*

ENGLISH METHOD OF ADVERTISING BRUSHES.

(*From United States Consul Halstead, Birmingham, England.*)

A statement of the business practice of a Birmingham manufacturer of a line of high-grade brushes, hair and nail, in dealing with English hotels, may serve as a useful suggestion to American manufacturers and dealers in that line. This manufacturer contracts with English hotels for nominal sums, probably just about or nearly paying his actual expenses, to furnish the hotels with hair, nail, and clothes brushes. The hotels pay a fixed sum by the year, and also pay for lost brushes, which often means stolen ones. The brush manufacturer furnishes a double set of brushes for each washstand and at the end of each week takes away the brushes which have been in use and gives them a thorough sanitary cleaning. The bristles, which have been softened by the lavatory attendants daily washing them, are replaced, and the brushes are generally repaired, refinished, or revarnished, a second set being left in the place of those undergoing repair. The manufacturer places on them with a very neat wire-tack lettering his name and address and the name of the hotel.

The result is that the hotel is always able to provide its patrons with hair and nail brushes which are a credit to the establishment, and the manufacturer's brushes are so admirable that he obtains a splendid advertisement. It has been a surprise to me, however, that a manufacturer who was clever enough to introduce this advertising system should not have made an arrangement with the hotels or retail dealers by which a glass case containing brushes, etc., would be placed in the lavatories and the attendant allowed to sell them.

Occasionally this manufacturer sells his "advertising rights" on the brushes, and in one case the proprietor of a well-known hair restorer had a neat advertisement on them.

MARSHAL HALSTEAD, *Consul.*

BIRMINGHAM, ENGLAND, *September 5, 1904.*

THE "AUTOPYROPHON."

(From United States Consul-General Wright, Munich, Germany.)

The "Autopyrophon," a new and simple automatic fire alarm, has been invented and patented by a Danish scientist, C. F. Hilkier. The apparatus acts only when a sudden wave of heat is generated in an inclosed space, but is not influenced by a general and evenly high temperature. It is 10 centimeters (3.94 inches) high, 7 centimeters (2.76 inches) broad, and 2 centimeters (0.78 inch) deep. It can therefore be easily fixed anywhere. It consists of a small glass tube bent in the shape of a capital U. This tube, the ends of which are closed, is half filled with mercury, the other upper half containing a highly volatile liquid—for instance, sulphuric ether. One of the upper parts of the glass tube is surrounded by a cover of some nonheat conducting material, so that a sudden rise of temperature affects only the other or free part of the glass tube. In case the temperature rises evenly the whole apparatus is affected and no warning signal is given. If, however, the temperature in the room is suddenly raised, as by the outbreak of a fire, the ether above the mercury in the glass tube, which is unprotected, evaporates, and the pressure of the generated vapors causes the mercury to sink in the tube while it rises in the opposite part.

Both parts of the tube are fitted with an electric wire melted into the glass, so that when the mercury stands equally high in both tubes the electric current passes through and the apparatus remains silent; but should a movement of the mercury take place because of a sudden rise of temperature, the electric circuit or contact is impeded, and any kind of electric alarm may be set into motion at any distance and at as many places as required. The apparatus also indicates impediments and interruptions of the electric current. The substances need no renewal and the apparatus acts an indefinite length of time.

I was present at one of the demonstrations and found that the alarm was raised within eight seconds from the time a small heap of shavings was set on fire in the corner of an ordinary sized room. In this case the apparatus was fixed near the ceiling at the end of the room, opposite that where the shavings were burning.

It is calculated that one apparatus is needed for an area of 600 to 800 square feet.

The apparatus is manufactured by the "Autopyrophon Gesellschaft," 45 Unter den Linden, Berlin, and is retailed at 12 marks ($2.86). The company has lately fitted the palace of the Crown Prince of Germany with this apparatus.

W. F. Wright, *Consul-General.*

Munich, Germany, *September 3, 1904.*

ASPHALT PAVING IN SANTIAGO, CHILE.

(*From United States Secretary of Legation Ames, Santiago, Chile.*)

The municipality of Santiago has just made a contract with the South American Asphalt Paving Company (the South American branch of the Barber Asphalt Paving Company) for paving with asphalt 130,000 square meters (1,399,320 square feet) of the city's streets.

The awarding of this contract is the first step in the carrying out of a general plan for improved drainage and roadways in the city of Santiago, the roadway improvement to consist of the above-mentioned portion in asphalt, 100,000 square meters (1,076,400 square feet) of asphalt additional to be provided by the parties receiving the contract for the new sewerage system, 842,604 square meters (9,069,789 square feet) of stone pavement on a concrete base, and 208,500 square meters (2,244,294 square feet) of macadam pavement.

The expense of paving is to be met by an issue of municipal 6 per cent bonds, authorized by Federal statutes to be amortized at the rate of 2 per cent annually, the interest and amortization charges to be met by a tax on vehicles.

The 130,000 meters of asphalt paving contracted for by the South American Asphalt Paving Company comprise one side of the Alameda (the principal longitudinal thoroughfare), the more important transverse thoroughfares, and the streets of the business section. The pavement is to be standard—12 centimeters (4.72 inches) of concrete base, 4 centimeters (1.57 inches) of "binder," and 5 centimeters (1.97 inches) of wearing surface. The price is to be $13.97 Chilean paper ($4.67 United States currency) a square meter (10.76 square feet), with additional compensation for extra grade. The contracting company is to provide new granite curb for most of the streets to be paved, at the price of $3.65 Chilean (about $1.22 United States) currency a linear meter (39.37 inches). The company has given a free guaranty of maintenance for the first five years and may, at its option, contract to maintain its pavement in good condition for the following five years at the price of $0.18 Chilean (6 cents United States) currency a square meter and for a further five years at the price of $0.25 Chilean (approximately (8½ cents United States) currency a square meter.

Edward Winslow Ames, *Secretary of Legation.*

Santiago, Chile, *August 16, 1904.*

DIVISION OF LABOR IN DIFFERENT COUNTRIES.

(*From Deutsche Industrie-Zeitung, published in Berlin.*)

The following table gives an interesting and instructive comparison of the percentages of persons engaged in the lines of industry indicated:

Percentage of persons employed in certain industries in leading countries, 1904.

Country.	Agriculture, horticulture, and forestry.	Manufactures and mining.	Commerce and transportation.
Germany	37.5	37.4	10.6
Austria	58.2	22.3	7.3
Hungary	58.6	12.6	3.3
Italy	59.4	24.5	7.4
Switzerland	37.4	40.7	10.7
France	44.3	33.6	9.4
Belgium	21.1	41.6	11.7
Netherlands	30.7	33.7	17.2
Denmark	48.0	24.9	11.8
Sweden	49.8	20.9	7.5
Norway	49.6	22.9	11.7
England and Wales	8.0	58.3	13.0
Scotland	12.0	60.4	12.4
Ireland	44.6	32.6	5.0
United States	35.9	24.1	16.3

WEST AFRICAN COTTON CULTURE.

(*From United States Consul Mahin, Nottingham, England.*)

It is announced that Sir Alfred Jones has bought 60,000 acres of land in Sierra Leone, which is to be immediately devoted to cotton growing. He has also bought an estate in Lagos, covering 50 square miles, originally and still in part a coffee plantation, which he will plant largely in cotton. There is said to be abundant native labor at low wages available for these enterprises, and transportation facilities are fairly good.

It is also announced that an African steamer has recently landed at Liverpool the largest single shipment of cotton ever grown in West Africa, amounting to 14 tons in bales and a quantity otherwise packed, which experts proclaim compares favorably with American and Egyptian cotton. The total African product, it is stated, can not be gauged by the shipments, as natives and settlers are retaining large quantities for their own spinning and manufacturing.

FRANK W. MAHIN, *Consul.*

NOTTINGHAM, ENGLAND, *September 5, 1904.*

NOTES.

Canadian Exhibition in Jamaica.—The Dominion government has, it is stated, decided to assist a proposal for the establishment of a permanent Canadian exhibition in Jamaica. Samples of the products of the Dominion will be exhibited, and there will be representatives to answer inquiries and to make explanations to buyers. The projectors expect by this means to divert to Canada much of the trade that now goes from the West Indies to the United States. If the venture proves successful similar exhibits may be provided by all the colonies, so as to facilitate commercial intercourse between them, to the exclusion of foreign trade.—*W. R. Holloway, Consul-General, Halifax, Nova Scotia, August 2, 1904.*

Preferential Tariff—Canada and South Africa.—It is announced that the Cape of Good Hope, Natal, Orange River, the Transvaal, and Southern Rhodesia colonies are entitled to the benefits of the British preferential tariff in Canada, dating from July 1, 1904. This is in return for the preference extended by the South African customs union convention to Canada. On certain specified articles the South African preference amounted to 2.2 per cent, which is the whole ad valorem duty. These articles are acids, bolts, nuts, rivets, chains, cranes and elevators, belting, hoes, machinery, electric cables, piping, and tubing, railway supplies of all kinds (including steel rails, sleepers, traction engines and tramway construction supplies), wire and wire netting for fencing, and wire rope. In the case of other articles imported under an ad valorem duty the preference is 25 per cent. As the ad valorem duty is 10 per cent, the duty on articles from Canada will be 7.5 per cent.—*W. R. Holloway, Consul-General, Halifax, Nova Scotia, August 2, 1904.*

Canadian Exhibit in London.—The Canadian Manufacturers' Association is considering a proposal to open an office in London, England, with sufficient space for sample rooms in which to exhibit goods produced by the members, so as to secure direct representation for the association in the commercial center of the world. The service to be rendered to members would include investigating, answering, and indexing trade and other inquiries; caring for and distributing catalogues, etc.; making attractive displays of samples; establishing business relations for members with buying houses; following up business possibilities; securing special information for members respecting government contracts; securing suitable expert labor for members; addressing meetings and distributing information respecting Canada; obtaining information regarding the markets of the world, and regarding raw materials required in Canadian manufacturing industries.—*W. R. Holloway, Consul-General, Halifax, Nova Scotia, August 2, 1904.*

German Meat Inspection Law.—The hardships from the German meat inspection law have been made more severe by the regulations ordained by the German Federal Diet in regard to the entry of foreign meat and bacon. As these regulations and the excessive fees for examining the imported articles make their entry well-nigh impossible, the Central Union of German Merchants and Tradespeople have petitioned the imperial chancellor and the Federal Diet to ameliorate the regulations by reducing the inspection fees and accelerating the examination of meat stuffs. The petitioners assume the position that the chamber of commerce of Breslau took in its petition to the German Government on the same subject. The wholesale and retail meat dealers, and more especially the people of Germany, suffer from the inhibitory tendency of the regulations and charges.—*Richard Guenther, Consul-General, Frankfort, Germany, July 26, 1904.*

The Building Material of the Future.—The years 1902–3 were without doubt the worst that German cement manufacturers have ever experienced. The cement syndicate formed for the purpose of controlling prices went to pieces in 1902, which event was followed by a general cut in prices, for the purpose of getting rid of a large surplus. The demand from the United States was only fair during the early part of 1903. During the last quarter of the year, the export from Stettin dropped to less than one-third of the amount exported during the same quarter of 1902. Cement works are now turning their attention to the manufacture of artificial stones for building purposes. The façade of a Government building just completed here in Stettin is of artificial stone, and private dwellings and flat buildings are being embellished with figures and designs of artificial stone. Concrete and beton are rapidly replacing stone and brick in all kinds of building work, particularly for foundations, sewers, bridges, and pillars. Many experiments are now being made with beton, and it is predicted that it will be the building material of the future, the claim being made that it is the least susceptible to fire of all materials now used for building purposes, is cheap, and is very durable.—*John E. Kehl, Consul, Stettin, Germany, July 9, 1904.*

Agricultural Purchasing Society of Russia.—The agricultural attaché of Germany who is stationed at St. Petersburg reports that the semstwos (county administrative bodies) of fifteen provinces of the Russian Empire have agreed upon the following: (1) The provincial administration of Orel is to take sole charge of purchasing agricultural machines and implements, except plows; (2) the provincial administration of Moscow will purchase all iron plate and sheets; (3) the provincial administration of Smolensk will buy all implements and machines for dairy use; (4) the purchase of seeds is to be attended to by the provincial administration of either Kaluga or Jaroslow; (5) it has not been settled yet which provincial administration will have charge of the purchasing of fertilizers. It is expected that this central organization will soon absorb all semstwos of Russia.—*Richard Guenther, Consul-General, Frankfort, Germany, July 25, 1904.*

Demand for Mercerized Goods Expended.—As prophesied one year ago, the lively American demand for mercerized cotton effects continued until April, since which time there has been scarcely a yard sold or an order booked. American buyers, after examining the manufacturers' collections and prices of mercerized dress goods, have placed no orders, claiming they can buy as good goods at better prices at home.

American designs and patterns continue to be sent here and the manufacturers realize more than ever the importance of their American competitor. The exports of mercerized cotton goods from Glauchau during the past year amounted to $51,112.04, but it is the opinion of the principal manufacturers and exporters that this class of dress goods have had their day and that the return for the year ending in 1905 will show a decided decrease in their exportation from this district.—*E. A. Greevey, Consul, Glauchau, Germany, July 15, 1904.*

Municipal Dentistry in Germany.—Under date of July 29, 1904, United States Consul E. Theophilus Liefeld, of Freiburg, Germany, transmits the following clipping from the Daily Mail (London) of July 23, 1904:

> The dental statistics gathered in many European cities have revealed such an alarming condition of affairs that Germany, at least, has decided to adopt combative measures.
>
> In all large towns dental clinics have been founded, consisting, as a rule, of specially fitted-up rooms in one of the central schools.
>
> Fully qualified dentists are appointed, who devote their whole time to their duties, but in Stuttgart the work is done voluntarily by the local dentists. That such a movement is necessary can scarcely be doubted when one learns that of many thousands of boys and girls examined, from the ages of 8 to 13, only 2 per cent had a perfectly healthy set of teeth. To give an idea of the amount of work done in a year at Darmstadt schools it is necessary to quote the figures for 1903. During the year 1,376 children were examined, and 1,561 teeth were filled, while 1,871 were extracted. In Strassburg 2,666 children were examined, 699 teeth were filled, and 2,912 were extracted.
>
> Another interesting fact is that 40 per cent of all teeth examined were bad. The method of work is very simple; the teacher brings his class to the dentist, who examines each mouth quickly and marks on the card which each child has brought with it whether treatment is necessary. If so, the child must come again on a Saturday. Russia is also joining in the movement, and has already fitted up nine such institutions in St. Petersburg alone, while Moscow has also several.

Apples in England.—This year's fruit harvest throughout England is the most abundant ever known. Apples are showing a record crop. There is a glut of this fruit in the market. From Tasmania alone some 20,000 to 30,000 boxes are arriving weekly, and these are reported superior to the apples from Spain and Portugal. Huge quantities are arriving from Italy, and prices are quite disorganized. New season English apples, Keswick codlins, can be bought at 3 shillings (72 cents) a half bushel, and Australian apples are quoted as low as 2 shillings (48 cents) a case, which must mean a loss to the shippers on every case sold. The American fruit is in fair demand considering the state of the market. There is no longer any question about the demand for and popularity of American apples in England. Sales will steadily increase and the trade will be more than ever a profitable one.—*Jos. G. Stephens, Consul, Plymouth, England, July 27, 1904.*

Medical Profession in Venezuela.—This office frequently receives letters from American physicians and dentists asking for information about Venezuela and the prospects of persons to settle here and practice their professions.

Neither physicians nor dentists are allowed to practice in Venezuela unless they have passed an examination before a board, especially appointed for such purpose, at Caracas. After this examination and the granting of a diploma entitling the bearer to practice in Venezuela, as published in the Official Gazette, a foreigner may practice his profession in any part of the Republic.

It must be kept in mind that the examination is held in the Spanish language. Doctors' fees are very moderate, and the number of wealthy foreigners in the country is limited.—*E. H. Plumacher, Consul, Maracaibo, Venezuela, July 25, 1904.*

English Lion on American Silver.—Under date of August 11, 1904, the Secretary of State, in a communication to the Department of Commerce and Labor, states that he has been informed that the English Parliament has passed an act prohibiting the further use of the English hall mark on American-made silverware.

Agitation in favor of the passage of the measure has been carried on for several years. It was asserted that an enormous quantity of American-made silverware was sent to England for hall marking with the English lion, so that it could be passed off elsewhere as English made. The use of the hall mark on silverware made elsewhere will in future be illegal.

Raw Silk Export Trade of Canton.—The general trade in raw silk at Canton during 1903 proved very disappointing to both producers and exporters, as the year opened with comparatively high prices, and which, after undergoing several fluctuations, fell very low; in fact, lower than for some years past. Factories (that is, filatures) paid high prices for cocoons throughout the year, and wages for labor were also high owing to several prosperous years preceding 1903, so that hardly one single filature closed its accounts without a serious loss as a result of the year's working.—*Robert Mc Wade, Consul-General, Canton, China, July 5, 1904.*

English Fishing Industry.—The extent of the fishing industry in the west of England is not recognized by the casual observer, but it is nevertheless very large. Last year the vessels engaged in fishing in England numbered 8,254, and afforded employment to some 41,539 men; their tonnage was 160,096 tons. The fisheries of Devon and Cornwall accounted for 2,097 vessels of 23,010 tons and the employment of 8,059 men.—*Jos. G. Stephens, Consul, Plymouth, England, July 27, 1904.*

Japan's War Expenses.—The Japanese Government estimates the expenses of conducting the war for the fiscal year 1904–5 at about $284,000,000. The Legislature has already provided for this outlay by passing acts for the issue of an internal loan amounting to $191,240,000, and of $15,438,000 in treasury orders. The balance will be raised by increased taxation.—*Richard Guenther*, *Consul-General*, *Frankfort*, *Germany*, *July 26*, *1904*.

Italian Hemp Crop.—Under date of July 6, 1904, United States Vice-Consul Homer M. Byington, of Naples, Italy, forwards a circular letter issued by a leading exporter of hemp to the United States, reporting on the hemp crop of Italy, which states that—

> From one-third to one-half of the entire area is to-day in a good and absolutely sound state, and good hemp may be expected from these parts. This year's product will doubtless be unequal, or rather mixed as to quality and length. All former reports regarding the bad state of our fields pictured things in decidedly too dark a color, as at present there is no reason for being alarmed. A little more hemp has been planted this year than last, and thus the deficiency can not possibly be serious. We are of the opinion that a large proportion of fine hemp, such as spinning hemp of a similar type to the Bassi, from the Bologna district, may be expected. However, it is too soon to give a definite judgment with regard to the crop; the future climatic conditions can yet better or injure it. The color, an important factor, will come into consideration later on, as also the condition of the water used in retting.
>
> Old stocks in the Campagna are estimated to still come up to about 1,000 to 1,500 tons, but holders prefer not to sell until the new hemp is ready for market, or else ask such high prices that merchants abroad do not care to place orders. Should buyers at the opening of the season show the same apathy, the influence upon our market would doubtless be wholesome, and we might again see prices at a more reasonable level.

Improvement of Puerto Cortes, Honduras.—A concession has been given to Capt. J. W. Grace, an American, to grade and improve the town of Puerto Cortes. It is understood that the contractor will have the right to place a valuation on the improved lots. The work is to be commenced within four months and completed within five years, one-fifth each year. The contractor is to lay tramways and construct modern lighting works, and, if necessary, to form a company to carry on the work. In case of epidemic, revolution, or war the time lost is not to count against the contractor.—*William E. Alger*, *Consul*, *Puerto Cortes*, *Honduras*, *August 3*, *1904*.

Life Insurance in Canada.—There has been a small increase in the percentage of the average life policy in American companies in Canada during the past seven years. In 1877 there were $1,553 in Canadian, $1,645 in American, and $2,029 in British companies. In 1904 there are $1,501 in Canadian, $1,965 in American, and $1,965 in British companies. The Canadian and British averages have thus become slightly smaller, while the American has become slightly larger.—*W. R. Holloway*, *Consul-General*, *Halifax*, *Nova Scotia*, *August 12*, *1904*.

Railroad in Brazil.—Proposals will be received by the Brazilian secretary of agriculture until October 22, 1904, for the construction of a railroad from Ilhéos to Conquista.—*H. W. Furniss*, *Consul*, *Bahia*, *Brazil*, *July 23*, *1904*.

Chapel of Rest.—One of the newspapers tells of a novel institution in Avondale Park, Kensington, London, intended primarily for the convenience of the poor. A mortuary, known as the "Chapel of Rest," is provided to serve the needs of poor families who live in one or two rooms in overcrowded tenements and suffer inconvenience when death occurs. This institution will also be available to those who can afford to pay, who may wish to use it in cases where several days must elapse before a funeral can take place.—*Marshal Halstead, Consul, Birmingham, England, August 3, 1904.*

Small Farm Holdings in England.—Small farm holdings are now considered the best remedy for agricultural depopulation. Many papers still argue, however, that it is a delusion, and will not work in practice. Where it has been tried it has been successful, and it is strange that so few estates should be cut up. When a large farm is divided into small holdings the demand for the land usually far exceeds the supply. This has been the experience in Dorset, Wilts, Suffolk, Norfolk, Lincoln, and Surrey counties. Men are willing to remain in the country if they have the satisfaction of working on land which is their own, or is held on a secure tenure. This is at present far from the case, and thousands of acres go out of cultivation and multitudes hurry off to foreign lands to obtain the opportunity denied them in their own.—*Jos. G. Stephens, Consul, Plymouth, England, August 4, 1904.*

Trans-Andean Railway, South America.—The contract for the construction of the trans-Andean railway has received the approval of the Government. This road, when completed, will connect Valparaiso and Santiago with Buenos Aires, and will be the first railway crossing the South American continent connecting Atlantic and Pacific ports.

It is estimated by the contractors that the work of construction will require three years. A connecting line is being built from Argentina, which is more advanced than the Chilean branch.

The construction contractors are W. R. Grace & Co., and the Government guaranty is 5 per cent annually on $6,569,775 for a term of twenty years.—*R. E. Mansfield, Consul, Valparaiso, Chile, June 30, 1904.*

New German Commercial Treaties.—Richard Guenther, consul-general at Frankfort, Germany, sends, under date of July 26, 1904, the following extract from the Dresden Chamber of Commerce report, lately issued, which he says fairly represents German opinion on the policy of granting the "most favored nation clause:"

> The lively industrial activity which showed itself during 1903 strengthens the hope of continued improvement, but we are still far from a booming time such as we had from 1895 to 1900. Such a time could hardly return until our foreign commercial relations have been put on an enduring basis. For that reason we hope that the commercial treaties just made with Italy and Belgium will be followed by similar ones with Great Britain, Russia, Austria, Switzerland, and the Balkan States, and, after these, with those countries with whom we maintain only the "most favored nation clause," which, however, put the most serious impediments against the entry of German goods. If treaties on this basis are to be negotiated with the United States, Argentina, and Sweden and Norway, these countries should give us corresponding compensation for the benefits which they receive from Germany.

Marriage of Foreigners in Peru.—The decree of February last requiring that before celebrating a marriage between foreigners, or between a Peruvian and a foreigner in Peru, the civil and ecclesiastic authorities should exact, in addition to the testimony of two witnesses, a certificate of bachelor- or spinsterhood, has been indefinitely suspended.—*A. S. M. Gottschalk, Consul, Callao, Peru, July 14, 1904.*

Plows and Agricultural Machinery Wanted in Bulgaria.—The Board of Trade Journal (London) of August 18 contains the following:

The Bulletin Commercial states, on the authority of the Belgian consul-general at Sofia, Bulgaria, that the Agricultural Bank of Sofia has decided on the purchase of 5,000 iron plows, 200 grain-sorting machines, 200 machines for granulating maize, and 500 harrows.

The directors of the Agricultural Bank will invite the best known manufacturers to forward specimens and prices. A commission, composed of landowners and officials, will examine the various apparatus sent, giving the preference not to the articles offered at the lowest price, but to those of the best quality.

These orders will, in the opinion of the Bulletin, lead to considerable purchases in the future, and manufacturers of agricultural machinery would do well to send price lists to the Agricultural Bank, Sofia, Bulgaria.

Cotton Growing in the West Indies.—Consul-General W. R. Holloway, of Halifax, Nova Scotia, under date of August 13, 1904, writes as follows: Mr. Charles S. Pickford, of this city, who is largely engaged in the West India trade, and usually spends his winters in the islands, in speaking of the industrial condition in British West Indies, in a recent interview, said:

> The establishment of the cotton industry in the West Indies is proving very successful. In 1902 the first experiments in cotton cultivation were being made. Last year 4,000 acres were under cotton, and for 1904 the seed for 8,000 acres has been distributed.
>
> There is a good deal of enthusiasm for cotton growing, especially in the smaller communities, such as Montserrat, St. Kitts, and St. Vincent. Barbados has raised some exceptionally fine cotton, one bale of which sold as high as 36½ cents a pound. So far the industry appears to be profitable.

Reduced Freight Rates on Iron Ore for Europe.—According to the Frankfort Journal of July 24, 1904, American iron ore could not compete in Europe with Swedish ore, owing to the high railroad rates in America and the ocean transportation charges. Recently, however, iron ore is shipped via Montreal, whereby the railroad freight charges are greatly reduced. The ocean transportation lines have also agreed to ship iron ore at grain rates. Within the last three weeks, according to English papers, steamers to carry 32,000 tons of ore each have been chartered from Montreal to Antwerp and Glasgow.—*Richard Guenther, Consul-General, Frankfort, Germany, July 25, 1904.*

Tonnage of Lourenço Marquez—Lourenço Marquez should be added to the list of ports whose shipping annually amounts to more than 1,000,000 tons, the figures of the tonnage for 1903 being 1,382,365, and the number of passengers discharged being 15,648. The tonnage for the year 1902 was 811,162.—*W. Stanley Hollis, Lourenço Marquez, Portuguese East Africa, July 12, 1904.*

Cotton in Palestine.—Under date of July 28 the London Daily Telegraph quotes the following interesting observations from the annual report of the British consul at Jerusalem in regard to the possibilities of Palestine as a cotton-producing country:

"Forty years ago a good deal of land was occupied by the plant, and the crop of 1866, which was devoured by locusts, was estimated at about 800 tons. Since that year, we are told, the cultivation of cotton may be said to have ceased in those parts, the great fall in prices after the termination of the American civil war having caused the natives to abandon it. The latitude of Palestine, 30° to 33°, comes well within the cotton-growing zone of the American continent, and ought to be, as far as climate and soil are concerned, a suitable field for production, up to a height above the sea of nearly 1,000 feet. With modern appliances and the superintendence of experienced Europeans, there is no reason why cotton should not be successfully cultivated in many parts of the country to a large extent, and the production per acre considerably increased compared with that of former times. What is wanted is better and cheaper means of transport, a supply of proper instruments for the use of the peasantry, and instruction in improved methods of cultivation."—*Ernest L. Harris, Commercial Agent, Eibenstock, Germany, August 4, 1904.*

Motor Cars and Motor Cycles in England.—There are now in the United Kingdom 20,076 motor cars and 22,916 motor cycles. The trade in these vehicles is certain to grow in leaps and bounds during the next few years. The English roads are perfect, and while the money market is doubtless tight, there is, nevertheless, an immense amount of wealth in reserve among the people, and they will not hesitate to spend it for wants and luxuries even though they at present hesitate to trust it in commercial enterprises.

Several of the large American manufacturers have established agencies in London, and I am informed by the principals that business is good. Nevertheless, the United States is not securing as much of this trade as it might and should. Germany has its representatives traveling all through the Kingdom; and English firms are pushing their business with systematic and untiring enterprise. American firms would do well to stimulate their London representatives to greater activity in the provinces.—*Jos. G. Stephens, Consul, Plymouth, England, August 4, 1904.*

Haitian Import Duties Payable in Paper Currency.—Under date of August 14, 1904, United States Minister Powell, Port au Prince, Haiti, reports that the Government has repealed the law requiring 25 per cent of the import duties to be paid in the metallic currency of the Republic. This leaves the law as it was; payment can now be made, as formerly, in paper currency. This has been a relief to commerce and has somewhat reduced the rate of exchange.

Girls as Fruit and Hop Pickers.—The newspapers report that in the Strathmore district of Perthshire, Scotland, fruit growers have dispensed almost entirely with tramp labor, having engaged girls from Edinburgh, Glasgow, and Dundee as pickers. These girls, engaged ordinarily in indoor occupations in those cities as factory hands, dressmakers, etc., welcome the open-air employment as a health-giving holiday for which they are paid. The papers say that the girls are well looked after, comfortable board and lodgings being provided for them by the farms on which they are employed at 6 shillings ($1.46) a week. Attention is not called to the fact that the employment of these girls as extra hands at fruit-picking times must disorganize the work in the factories where they have regular employment. In the chain, pulley block, and anchor district near Birmingham there is annually very great embarrassment to the ironmasters owing to the fact that the men, women, and children employed in their works abandon them temporarily each year at hop-picking times, and I am told that during the hop-picking season in Kent some of the London Board schools are practically emptied, whole families migrating to the country, where they encamp in barns and sheds and under hedges until the hops are gathered in.—*Marshal Halstead, Consul, Birmingham, England, August 4, 1904.*

School for Employees of Electrical Plants.—A few months ago the Central Trades Association of Königsberg, Prussia, instituted a free course of instruction for those who are employed at the electrical works in that city (minors excepted). The lectures, which are held two evenings a week, from half past 7 until half past 9, are delivered by some expert engineer, who has had long practical experience. At the end of each course, which lasts about twelve weeks, examinations are held. Those who succeed in passing these examinations are awarded certificates which set forth the fact that they have performed their work in a satisfactory manner.

It is thought that this idea of giving free instruction to the employees of electrical works will be introduced in other places, as it is very much to be desired that workmen know as much about the business as possible, not only because they will be more efficient, but also in order to lessen the possibility of accidents.—*Southard P. Warner, Consular Agent, Gera, Germany, August 4, 1904.*

Oysters do not Transmit Disease.—The Frankfurter Zeitung of August 1, 1904, contains correspondence from Paris stating that last year a veritable campaign was waged against oysters, which were said to especially transmit typhus and various other bacilli.

The Journal Officiel now publishes the report of Prof. Alfred Giard, in the name of the sea-fishery commission appointed by the secretary of the navy, which clears the oyster of all charges, and expressly declares that they are eatable at all seasons, as they can not transmit any disease to human beings.—*Richard Guenther, Consul-General, Frankfort, Germany, August 1, 1904.*

Food in the Dutch East Indies.—Le Mercure, in its issue of July 31, 1904, gives the following review of a book entitled "De Voeding in Nederlandsch Indie" (Food in the Dutch Indies), of which Doctor Van der Burg is the author. This work, which has just appeared, has been awaited impatiently for a year. The question studied by Doctor Van der Burg is of primary importance, for it is chiefly on food that the health of Europeans in the colonies depends.

The author compares alimentation in tropical regions and in temperate regions. Although referring especially to conditions in the Dutch East Indies, the report will apply also to all tropical colonies.

The author goes into the study of animal foods, giving attention to mammals, birds, reptiles, and their products. His careful study of vegetable products is more important. He takes up successively rice, the chief vegetable of the Dutch East Indies; corn, the next most important vegetable; sago, the product of several species of Metroxylon and Cycas; sorghum and species of Manihot, Colocasia, Solanum and Dioscorea; among legumes, the soy bean, peanut, cowpea, velvet bean, Phaseolus, etc.; Nelumbium, Canavalia, Napa, etc. A list of indigenous legumes is given, followed by a list of fruits.

The author then takes up sugar, spices, vinegar, mineral waters, nonalcoholic beverages, and alcoholic liquors, including a series of fermented liquors having as a basis various tropical fruits.

This book is very opportune, since the colonies are being developed, and since persons interested in their development should economize their strength and health.

Population of Germany.—The Statistisches Jahrbuch für das Deutsche Reich for 1904, which has just appeared, shows that the population of Germany during the past year has increased by 881,000. The total population of the Empire is now 59,495,000. Since the establishment of the Empire in 1871 the population has increased by 18,500,000, or 45 per cent.—*Ernest L. Harris, Commercial Agent, Eibenstock, Germany, August 19, 1904.*

French Fruit Crop Abundant.—The French fruit crop is even larger than was expected. Prunes are particularly abundant, and as a consequence there is certain to be a largely decreased demand for American prunes, which have been so eagerly sought here during the past several years. There will also be a decreased demand for dried apples, peaches, and apricots.—*Benj. H. Ridgely, Consul, Nantes, France, August 10, 1904.*

Belgian Glass Industry.—The Etoile Belge recently published an interesting article on the crisis in the glass industry in Belgium, from which the following is extracted:

"During many years the glass industry of Belgium has rapidly increased. Jealous of us, the United States, formerly our tributary, developed the industry mostly with our workmen, who emigrated in great numbers and finally formed in America a union, which was successful in some disputes with the employers. Imitating the example, Belgium glass workers, on October 1, 1894, formed a federation called the New Glass Union. Instead, however, of remaining a union to resist the reduction of salaries or to assist in raising them, it became purely a political machine and an arm of oppression. Later, certain workmen tried to escape from the yoke, and in their turn founded, in 1898, opposing unions. In 1900 the union attempted to force the seceders back, and, the directors and owners of the glassworks refusing to aid them, a general strike ensued July 1, 1900. After a long time the owners gave in, but not before France and England had become formidable competitors.

"In 1902 we exported 377,802,908 pounds of window glass, valued at $9,807,560. In 1903 the figures fell to 369,764,002 pounds and $9,053,920, and are steadily diminishing."—*Thornwell Haynes, Consul, Rouen, France, August 3, 1904.*

Trichinæ in Germany.—The following is from the Brunswick Landeszeitung of July 29, 1904:

"The results of the Prussian trichinæ inspection for the year 1903, contained in the publications of the imperial health office, prove that the regulation providing for inspection for trichinæ is thoroughly necessary. According to these results, there were in all 793 swine affected by trichinosis, as compared with 735 in the previous year. Experience shows that if 1 hog in 13,000 slaughtered swine should be infected with the disease the animal would be a great danger to the health and life of numerous persons. In American imported bacon sides and other American products there were 60 cases of trichinæ ascertained in 1903, against 150 in 1902."

In the Brunswick slaughterhouse no hog was found affected by trichinosis during the past year.—*Talbot J. Albert, Consul, Brunswick, Germany, August 5, 1904.*

Germany's wish to Own Coal and Iron Mines.—United States Consul T. J. Albert, Brunswick, Germany, August 5, 1904, writes:

Recently there has been a large advance, amounting in one case to about 40 points, in the value of the shares of the capital stock of the German coal and iron companies. This movement has been ascribed not only to the improved business condition of the country, but also to reports that the Imperial Government will assume the ownership of the coal and iron companies, as it has already done of nearly all the railroads. In fact, the Government has made an offer for the entire capital stock of one of the largest companies, the coal lands of which lie on both sides of those owned and worked by the nation, and the possession of which would round out the Government property. The management of the company has, however, recommended to the stockholders that the Government's offer be declined as insufficient.

Australian Trade with Canada.—The Canadian commercial agent for West Australia, reporting to the department of trade and commerce from Melbourne, July 16, says:

"Record orders are being forwarded this year from Australia to Canada for agricultural implements and machinery. The principal

Canadian manufacturers enjoy an excellent representation here, to which is attributable the splendid and widely increasing business done, while a number of inquiries are going forward to Canada by this mail for lines of goods new to this country."

Again, apparently, has inattention to business methods hampered Canadian trade with the commonwealth. It appears from the report that there is undoubtedly a fine market in Australia for the better class of plug tobacco, but unfortunately an order for this article, placed with a Canadian firm, was filled with such indifferent material that it was deemed best not to put it on the market at all, lest it might ruin the prospect of future business.—*W. R. Holloway, Consul-General, Halifax, Nova Scotia, August 18, 1904.*

Canadian Export of Pulp and Pulp Wood.—The statistics for the fiscal year 1904 show that while the export of wood pulp from Canada decreased, the export of the raw material (pulp-wood), all of which goes to the United States, increased. The value of total export of pulp-wood in 1904 was $1,758,049, an increase over 1903 of $229,489, or 4½ per cent. The total export of pulp decreased 23 per cent, the value being $2,409,074, against $3,150,943 during the previous year. The falling off was chiefly in the export to Great Britain, the value of which decreased 51 per cent, from $1,129,173 to $548,720, while the value of exports to other countries fell from $226,002 to $52,912. The value of Canada's total exports of paper, however, rose from $849,519 to $1,097,212, an increase of $247,693, or 29 per cent of the total value of the exports during 1903. Great Britain took $447,672 worth, the United States $163,000 worth, and other countries $486,531 worth.—*W. R. Holloway, Consul-General, Halifax, Nova Scotia, August 18, 1904.*

Articles Listed to Pass Over the Siberian Railroad.—I am this day informed that permission has been granted by the Russian authorities for the following articles to pass over the Siberian Railroad and to be received until further notice free of duty: Candles, flour bags (capacity, 220.46 pounds), naphtha, lubricating oil, salt, ironware, tin roofing sheets, and steel cables. If prices, c. i. f. Baltic ports, and specifications were supplied to me promptly, it might be the means of securing some profitable business to American exporters.—*Ethelbert Watts, Consul-General, St. Petersburg, Russia.*

American Clover Seed for Russian Poland.—Owing to the extreme drought prevailing in Russian Poland, there will be practically no second crop of clover and consequently clover seed for next season must be purchased abroad. American red clover seed has been tried with success in Poland upon other occasions and it is now proposed by certain interests to purchase seed in quantity from America.

Dealers are requested to communicate at their earliest opportunity with Daniel Janasz, Jerozolimska 71, Warsaw, quoting prices c. i. f. Warsaw or Danzig, the former preferred.—*Clarence Rice, Consul, Warsaw, Russia, August 13, 1904.*

Pain Killed by Light.—United States Consul Liefeld, Freiburg, Germany, under date of August 10, 1904, incloses the following clipping from the London Daily Mail on the effect of blue light in subduing pain:

"After three years of patient research Professor Redard, of Geneva, assisted by Professor Emery, has discovered a new anesthetic which promises to revolutionize the practice of dentistry.

"Finding that the nervous system is influenced by colored light, the professor experimented with each hue in turn, and soon perceived that blue has an extraordinary soothing effect on the nerves.

"Putting this discovery to practical use, he now shuts up a patient in a dark room and exposes his eyes to a blue light of 16 candlepower for three minutes, causing him to lose all sense of pain, although at the same time retaining his senses. A tooth may then be painlessly extracted with none of the after effects on the system which sometimes follow ether or chloroform."

Smyrna Raisin Crop.—Owing to the dry hot winds that have prevailed during the past three weeks the estimate of the coming sultana raisin crop has been reduced to 25,000 to 27,000 tons, against 62,500 tons last year. At present the berries are unusually small and have an unhealthy appearance, so that the outlook in general is not favorable. Considering the fact that the prospect of the new crop is so poor, it was thought that the market would open higher than last year, but, apparently owing to the large stocks of last year's raisins still in the hands of dealers, both here and on the Continent, only 25 to 28 shillings ($6 to $6.72) a hundredweight could be obtained for the first arrivals. It is, however, considered certain that as the new crop is gathered the prices for good qualities will range considerably higher.—*Rufus W. Lane, Consul, Smyrna, Turkey, August 1, 1904.*

Denia Raisin Crop.—The improved cultivation of vines in the Denia section this year produced a great show of leaves, without much visible increase of crop, which is estimated at 500,000 hundredweight, against 465,000 in 1903 and 380,000 in 1902. The fruit is of average size, but though well protected by exuberant foliage it is feared the grapes will suffer from the intense heat now prevailing. In any case early ripening is anticipated, and the first shipments of new raisins may be looked for before the middle of August.

There are no stocks remaining in merchants or growers hands in this country, but advices from British and other foreign markets, where small stocks still exist, report a decline in value owing to unusual abundance of summer fruits. This will no doubt influence the first transactions here. Opening prices are not, however, expected to be less than $7 for 220 pounds, first cost from farmers to merchants.—*H. Albert Johnson, Consul, Valencia, Spain, July 26, 1904.*

Singapore-Penang Railroad.—The long-pending plan to connect Singapore with Penang by railroad is about to be carried out. Part by part the road has been built through the Federated Malay States, but until recently the Sultan of Johor, whose sultanate separates the Federated Malay States from the island of Singapore, has not favored railroad connection. The Sultan's objections having been overcome, it is expected that the road will be completed within four or five years.—*O. F. Williams, Consul-General, Singapore, Straits Settlements, July 14, 1904.*

Export of Maize from Servia Prohibited.—Under date of August 11, 1904, United States Minister John B. Jackson, at Sinaia, Roumania, reports as follows:

Referring to my dispatch of the 4th instant,[a] I have the honor to report that the Servian Government also has prohibited the exportation of maize and fodder, and I understand that similar action has been taken by the Government of Austria-Hungary. It seems probable that this year's crop, together with the surplus left over from last year, will be sufficient to supply the needs of the Balkan States themselves, but other countries which have heretofore depended upon these States for their supplies must seek them elsewhere this year. Considerable quantities of Roumanian maize have usually been exported to Holland and Denmark, as well as to Italy.

Banking and Interest in Honduras.—Honduras has but one bank, the Banco de Honduras, established in 1899. The bank rate of interest on loans is 18 per cent per annum, interest deducted in advance from the amount of the loan. The following data, obtained from 141 of the principal towns of the Republic, illustrate in the most emphatic manner the opportunity and necessity for other banks to be established: The monthly rate in 7 towns is 1 per cent; in 9 towns, 1½ per cent; in 82 towns, 2 per cent; in 13 towns, 3 per cent; in 4 towns, 4 per cent; in 3 towns, 5 per cent; in 18 towns, 6 per cent; in 1 town, 10 per cent, and in 4 towns, 12½ per cent.—*Wm. E. Alger, Consul, Puerto Cortes, Honduras, August 10, 1904.*

Unrestricted Camphor Trade in China.—Under date of July 29, 1904, United States Consul Fesler, of Amoy, transmits the following translation of a Chinese dispatch received by him from the foreign board at Fuchau, announcing the abolition of the Government camphor board and the removal of all restrictions on the trade:

"The Government camphor board of Fukien is hereby ordered to be at once closed, and its agencies at various places within Fukien shall likewise be abolished. Hereafter Chinese, as well as foreigners, shall be at liberty to proceed to the interior for the purpose of buying camphor without restriction or hindrance, and should any person or persons claiming to be officers of the said camphor board try to interfere with the free transportation of camphor it shall be the duty of the local authorities to investigate each case and cause such person or persons to be arrested and punished, so as to protect the trade."

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[a] "Short maize crop in Roumania." Daily Consular Reports, No. 2042, August 29, 1904.

British Shipping.—From the annual statement of the navigation and shipping of the United Kingdom for the year 1903, just presented to Parliament, it appears that last year 205,586 vessels of 41,762,424 tons arrived at and 203,389 vessels of 40,229,456 tons sailed from English ports in the coasting trade, against 209,516 vessels of 42,436,809 tons arrived and 207,361 vessels of 40,699,517 tons sailed in the previous twelve months.

In the foreign trade there was also a decrease, 8,929 vessels of 2,735,168 tons having entered and 8,493 vessels of 2,777,898 tons having cleared from English ports for foreign ports in 1902, while last year 8,082 vessels of 2,217,472 tons entered and 7,608 vessels of 2,237,745 tons cleared.—*Jos. G. Stephens, Consul, Plymouth, England, July 27, 1904.*

Passengers and Cargo at Formosan Ports.—The question whether or not foreign vessels may load cargo and embark passengers at the Formosan ports of Tamsui, Kilung, Anping, and Takao for the ports of Nagasaki, Kobe, and Yokohama in Japan, was brought up last year by the British Government. After some delay, the Japanese Government has decided that the above-mentioned Formosan ports may retain such privileges as they enjoyed under the Chinese régime, when there was no bar to their trading with the open ports of Japan, and that it is permitted to foreign bottoms to load cargo and embark passengers at these ports for Japanese ports.

Of course the United States benefits equally with Great Britain in this decision, under the most-favored-nation clause, but to make doubly certain I have obtained an assurance to that effect from the Formosan government.

It is to be noted, however, that foreign vessels are not permitted to trade between the several open ports in Formosa. This question will be brought up, I am given to understand, in the near future, most probably by the British authorities.—*A. C. Lambert, Vice-Consul, Tamsui, Formosa, June 30, 1904.*

Creameries in the Province of Buenos Aires.—The following note is from the Boletin Mensual, the official statistical publication of the Province of Buenos Aires, March, 1904:

"The manufacture of butter in the Province of Buenos Aires is rapidly developing, thanks to the excellence of the product. The following table shows the exportation of butter from 1900 to 1903:

Exports of butter from the Province of Buenos Aires, 1900–1903.

Year.	Quantity.	Value.
	Metric tons.	
1900	1,179	$254,701
1901	1,510	364,330
1902	4,125	1,233,240
1903	5,330	2,057,434

"The actual production of butter in 1902 was 7,352 metric tons; in 1903 it was 8,243 metric tons. The capital invested was $551,553,084."

Wheat Crop in Canada.—A former commissioner of Dominion lands who has just returned from a trip over a large portion of western Canada, speaking of the crops, says: "I saw a number of fields of wheat cut and binders at work last week, and in most of the districts wheat cutting will be general next week. Wherever the grain was properly put in the crop is good. In many places the yield will be from 25 to 30 bushels to the acre, but the yield of grain planted in the stubble will be very poor. I think the yield for the whole country will be 17 to 18 bushels of wheat to the acre. It is likely to be a very profitable crop. The straw is not too heavy and will be cheaply handled. There has been a very large increase in the number of thrashing machines, and the crop should be thrashed early and with little loss. The West is prosperous and everybody is busy. I was told that at least 12,000 harvesters would be required. Prices are likely to be good. One farmer sold his entire crop at 80 cents a bushel for October delivery."— *W. R. Holloway, Consul-General, Halifax, Nova Scotia, August 19, 1904.*

Germany's Foreign Trade in 1904.—Deutsche Industrie-Zeitung (German Industrial Times) Berlin, August 5, 1904, has the following note: "According to official statistics just published, imports and exports during the first six months of 1904, compared with those during the first six months of 1903 and 1902, were as follows: Imports, 1902, $675,682,000; 1903, $732,326,000; 1904, $756.840,000. Exports, 1902, $529,183,242; 1903, $576,752,540; 1904, $596,830,696. The largest increase in imports was in cotton, while the greatest decrease was in grain. Leading articles of export were instruments, machines, cotton goods, grain, wool and woolen goods, and silk goods."

Wages in Germany.—Masons in this part of Germany (Eibenstock district) receive from 8 to 9 cents an hour, carpenters from 7 to 8 cents an hour, and day laborers from 45 to 60 cents a day of twelve hours.

At present a railway is being built here on which 150 laborers, mostly Bohemians, are employed. They are paid from 60 to 72 cents a day.—*Ernest L. Harris, Commercial Agent, Eibenstock, Germany, August 23, 1904.*

Vintage of France, 1904.—The preliminary estimate of the vintage of 1904 in France shows that in 9 departments the crop of grapes is very good; in 46 departments the crop is good, and in 19 departments the crop is passable. It is estimated that the crop will yield 1,500,000,000 gallons of wine. In Algiers it is estimated the crop will be somewhat less than the average.—*R. M. Bartleman, Consul, Seville, Spain, August 16, 1904.*

Electric Tramways in Scotland.—The town council of Leith, Scotland, has acquired the horse-car lines within the borough from the private company heretofore operating them, and proposes to reconstruct the system. Some weeks ago a deputation was appointed to examine tramways in England and obtain information regarding them. This deputation has returned to Leith from a tour of inspection, and will, it is understood, unanimously recommend to the town council at the next meeting, on September 6, the adoption of the single-wire (overhead) electric system, the poles to be placed in the middle of the street with an arm on either side. The style of car to be recommended is that used in Liverpool, having a movable cover over the top. The length of track of the Leith tramways is 5¼ miles (double). For further information, after definite action has been taken, and for copies of specifications, etc., electric tramway contractors should address the town clerk of Leith.—*Rufus Fleming*, *Consul*, *Edinburgh*, *Scotland*, *August 25*, *1904*.

Starch Wanted in Austria-Hungary.—The potato crop in Austria-Hungary is so short this year that it will practically all be needed for food. There is consequently an immediate demand by manufacturers for potato starch, of which there is usually an abundance—in fact, Austria-Hungary has in other years exported potato starch. I am informed from a reliable source that several hundred carloads can be sold in Austria-Hungary this year. This business can be secured by American starch manufacturers on favorable terms if prompt offers are made.—*W. A. Rublee*, *Consul-General*, *Vienna*, *Austria*, *August 27*, *1904*.

Canary Islands Want Crates and Boxes.—The Canadian department of trade and commerce has received a request from Teneriffe, Canary Islands, to be placed in communication with parties able to supply banana crates and tomato and potato boxes. It is said the crates and boxes used are mostly from Norway and Sweden and that the yearly value of the imports is $700,000. The timber for building comes from the United States. It is said that specifications of the wood required for boxes can be obtained from the department.—*W. R. Holloway*, *Consul-General*, *Halifax*, *Nova Scotia*, *September 2*, *1904*.

Electric Supplies for Mexico.—A newly organized company will take charge of the electric-light plant of Mazatlan on September 1. The company will need a large amount of supplies, and quotations from manufacturers of electric supplies should be addressed at once to Señor José H. Rico, Mazatlan, Sinaloa, Mexico.—*Louis Kaiser*, *Consul*, *Mazatlan*, *Mexico*, *August 24*, *1904*.

Wire-wound Wooden Pipe.—Last April the Canadian Pipe Company installed a plant here for the manufacture of wire-wound wooden pipe, since which time between thirty and forty carloads have been shipped from here to the Northwest Territories, Manitoba, and Vancouver Island, and other orders are on hand which will be filled within a very short time. It is claimed that this pipe is superior, for water-supply purposes, to iron pipe and can be furnished at less than half the price. Besides this, it is much lighter to handle and is not so liable to burst upon freezing as pipe made of iron. Large quantities of this pipe are being put into use by mill owners and mining engineers in lieu of flumes, as its use results in the saving of water and repair. This new industry seems to have a good future before it.—*L. Edwin Dudley, Consul, Vancouver, British Columbia, August 31, 1904.*

Duty on Sealskins in Falkland Islands.—Information has been received here from Port Stanley, Falkland Islands, that the governor has issued an order in council imposing a duty of $2.24 each on sealskins taken in November, December, January, or February, and of 24 cents each on skins taken in other months, whether the skins are imported or for shipment. The four months mentioned are the best in the Halifax fleet's season, and the $2.24 tax is prohibitive of landing and shipping at Port Stanley. If the vessels of the fleet resume sealing they will either ship their catches from Montevideo or bring them to Halifax. Owing to this duty and the low price this year the Balcom fleet is not operating, the vessels being moored at Bedford Basin, near this city.—*W. R. Holloway, Consul-General, Halifax, Nova Scotia, September 6, 1904.*

Canadian Wheat Production and Consumption.—The Ogilvie Mills Company confirms previous estimates of the Manitoba wheat crop—58,000,000 bushels. Harvesting is about completed, under favorable conditions, there being practically no frost damage. The estimate of the total crop of the Dominion of Canada is 72,000,000 bushels. Estimated requirements for home consumption and seed are 36,000,000 bushels. The balance is available for export.—*W. R. Holloway, Consul-General, Halifax, Nova Scotia, September 13, 1904.*

Meat and Butter Exports of Denmark.—In 1903 Denmark exported 24,441 horses, 62,929 head of cattle, 23,290,000 pounds of beef, 165,330,000 pounds of ham and bacon, 770,000 pounds of mutton, 20,154,000 pounds of meat products (tongues, sausages, fat, etc.), and 156,560,000 pounds of butter. The great bulk of these exports of Danish agricultural products went to England.—*George H. Murphy, Vice and Deputy Consul-General, Frankfort, Germany, September 1, 1904.*

American and Canadian Trade with British Guiana.—According to the Maritime Merchant, Mr. F. W. Collier, postmaster-general of British Guiana, who has arrived in Canada, says:

"The sentiment of the merchants of Georgetown is that the bulk of the trade which goes to the United States should be diverted to Canada. Not many years ago most of our food stuffs, if not all, were brought from the United States, but Canadian shippers have stepped in and are competing with no small measure of success. Trial shipments of flour put up in Canada were made some years ago, but merchants complained that it did not "catch on" and further importations met with a certain amount of disfavor. The cause of failure in the first attempts was the difference in packing. Shippers on this side were made aware of the nature of the case and were asked to meet the requirements of the trade. Improvement thereafter was slow, but Canadian flour is now gaining popularity. Since Canada has granted our sugar a preference, the bulk of our produce comes to this market, and if during our crop season fast steamers could be sent down they would invariably have full cargoes to bring back."—*W. R. Holloway, Consul-General, Halifax, Nova Scotia.*

Measuring Binder Twine.—J. L. Haycock, Canadian inspector of binder twine, gives the following simple rule for determining the length of twine in a ball:

"Take a sample ball, press the strands close together, and note the number required lying side by side to make an inch. Every strand within the inch will represent 50 feet in the pound. If ten strands lying side by side make 1 inch, then a pound will contain 500 feet; if eleven strands, 550 feet; if twelve strands, 600 feet, and so on. Having this rule in mind, anyone can test his twine for length, and need not be duped by short measure."—*W. R. Holloway, Consul-General, Halifax, Nova Scotia, September 12, 1904.*

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